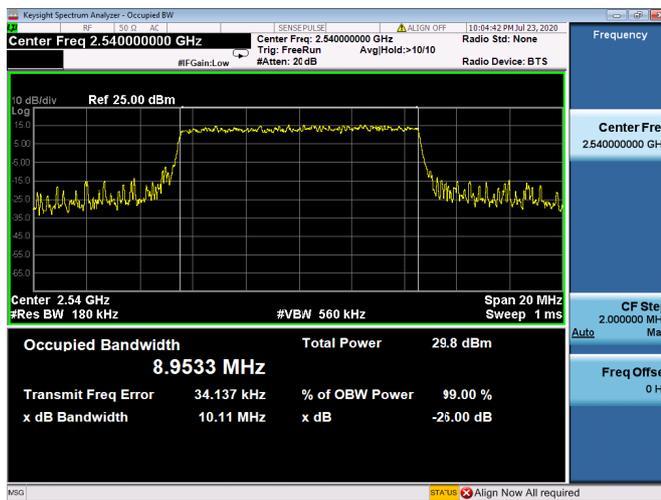
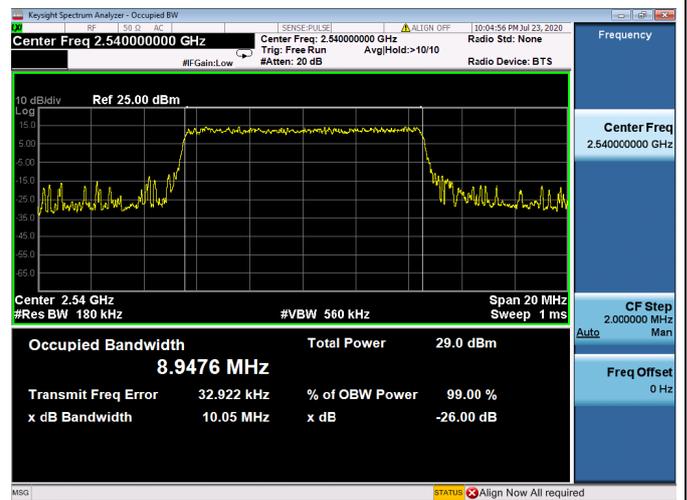




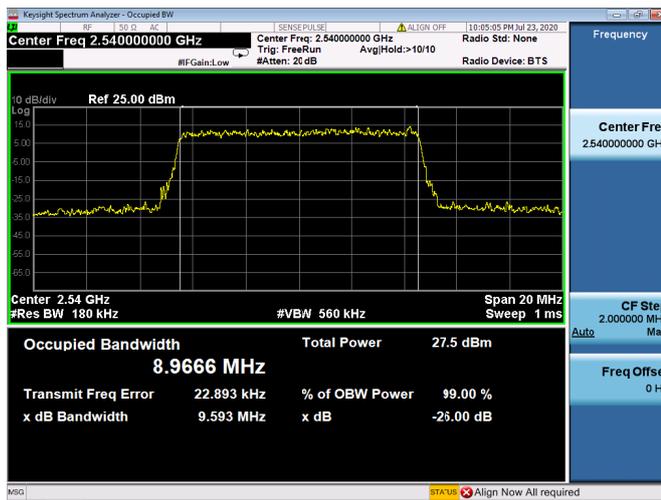
10MHz/QPSK / LCH



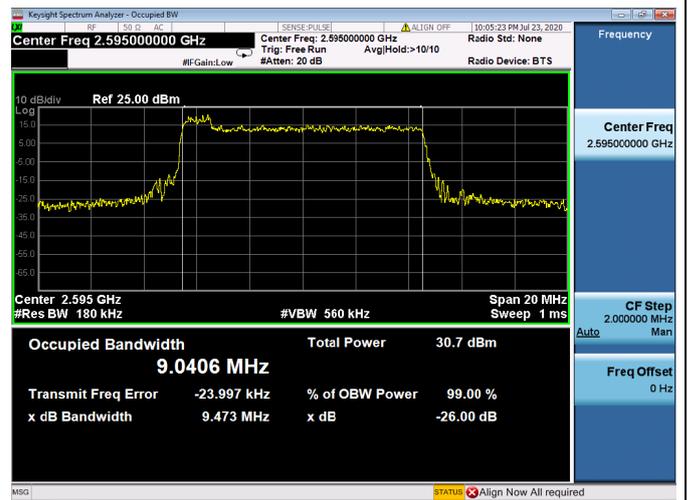
10MHz/16QAM / LCH



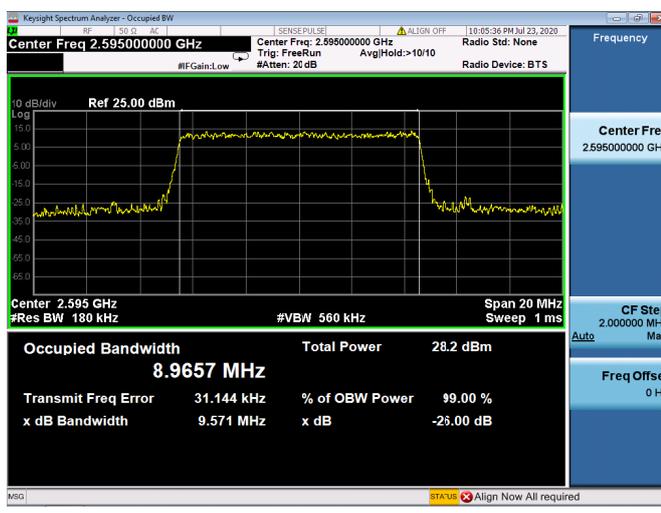
10MHz/ 64QAM / LCH



10MHz/QPSK / MCH



10MHz/ 16QAM / MCH



10MHz/ 64QAM / MCH





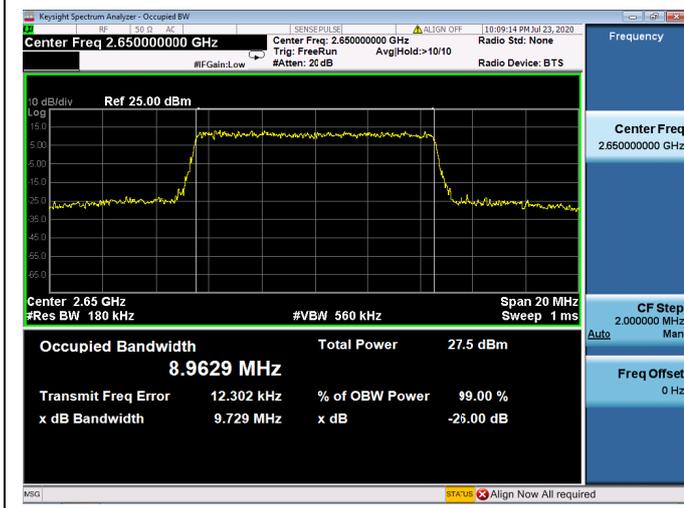
10MHz/ QPSK / HCH



10MHz/ 16QAM / HCH

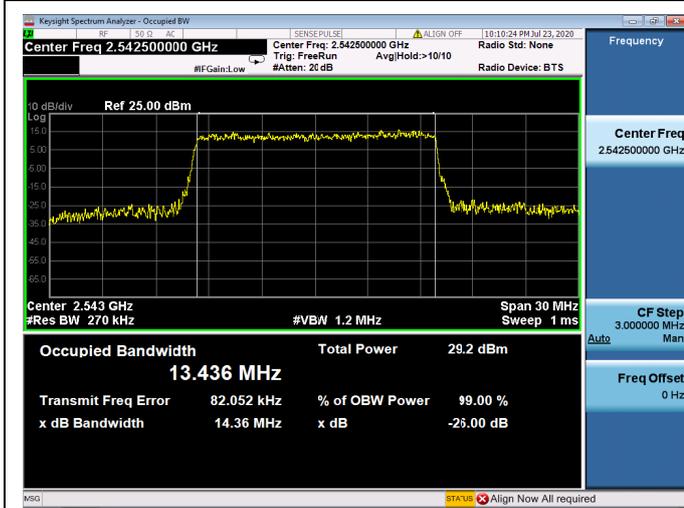


10MHz/ 64QAM / HCH

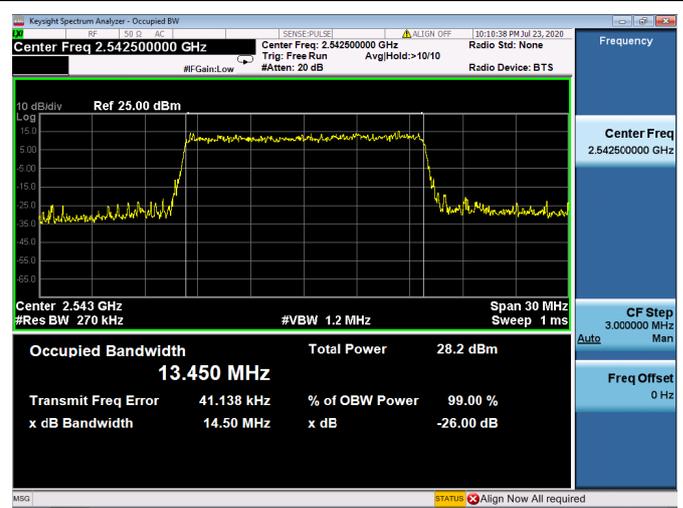




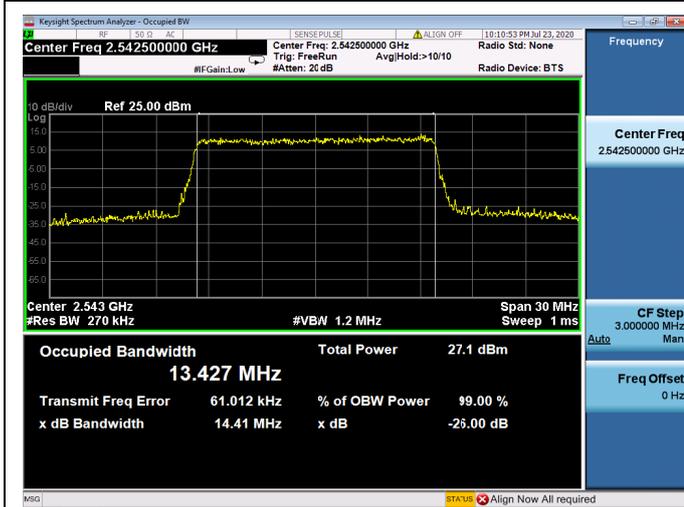
15MHz/QPSK / LCH



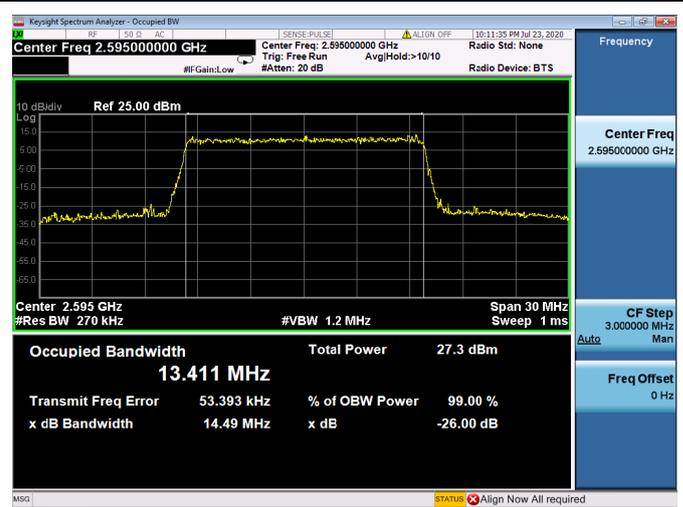
15MHz/16QAM / LCH



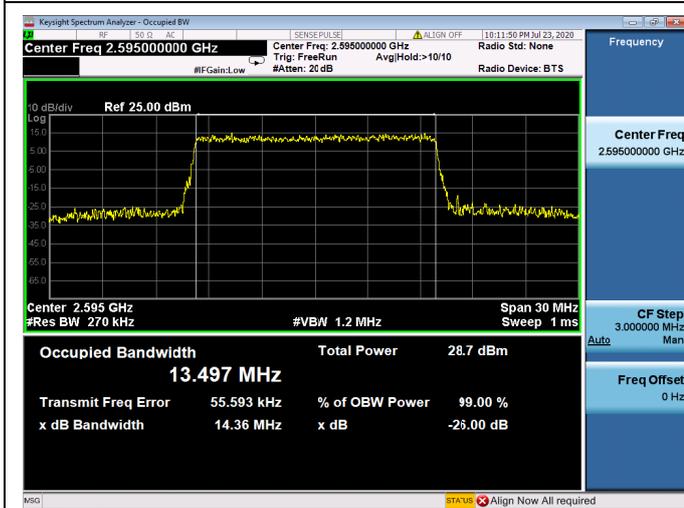
15MHz/ 64QAM / LCH



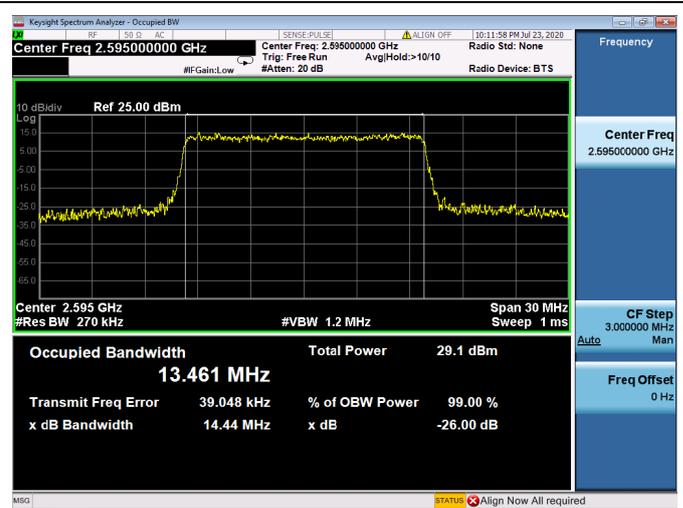
15MHz/QPSK / MCH

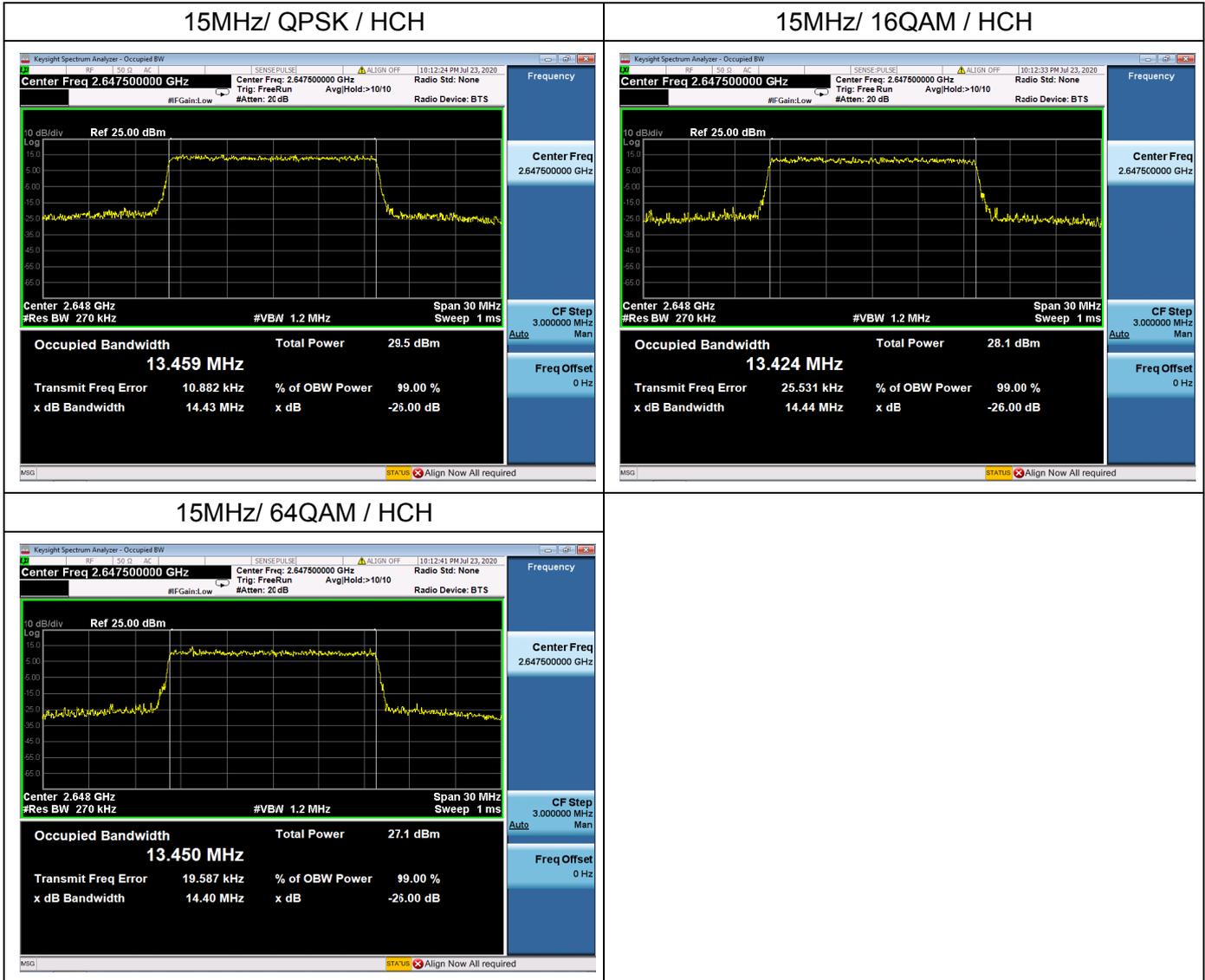


15MHz/ 16QAM / MCH



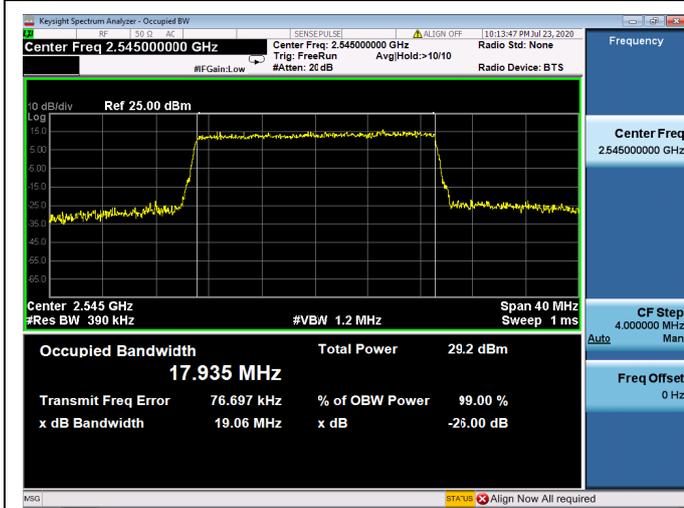
15MHz/ 64QAM / MCH



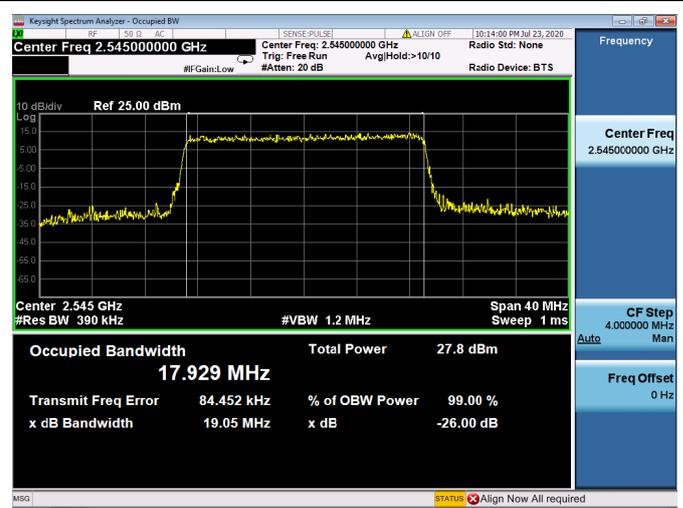




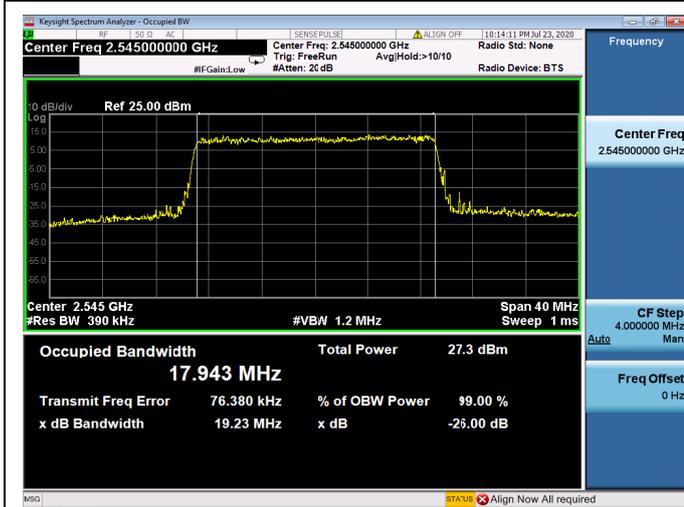
20MHz/QPSK / LCH



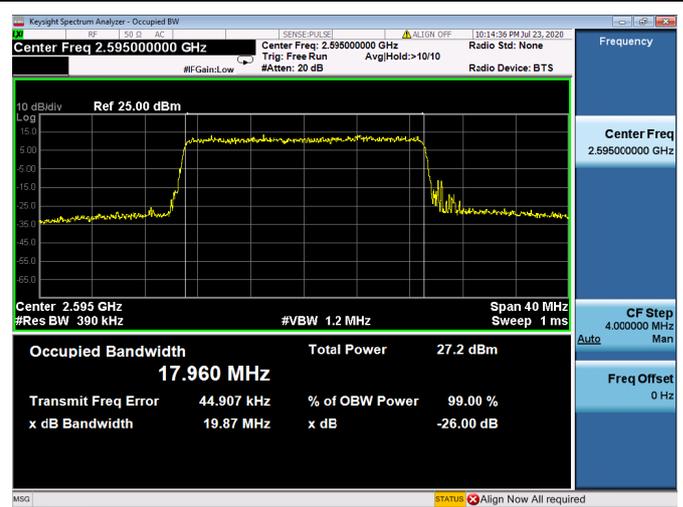
20MHz/16QAM / LCH



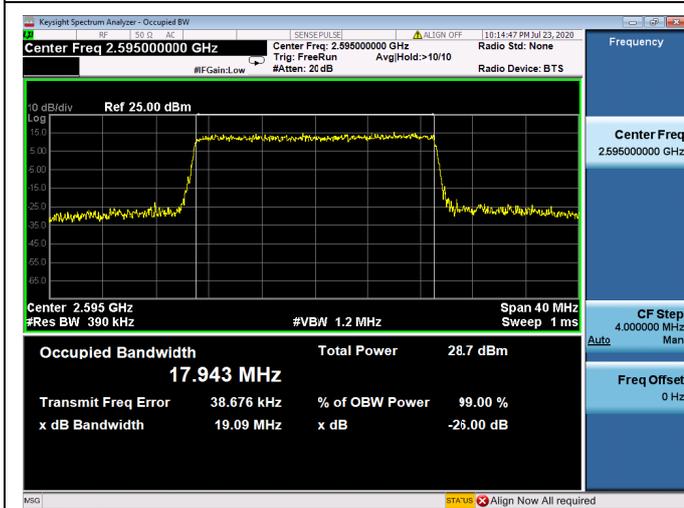
20MHz/ 64QAM / LCH



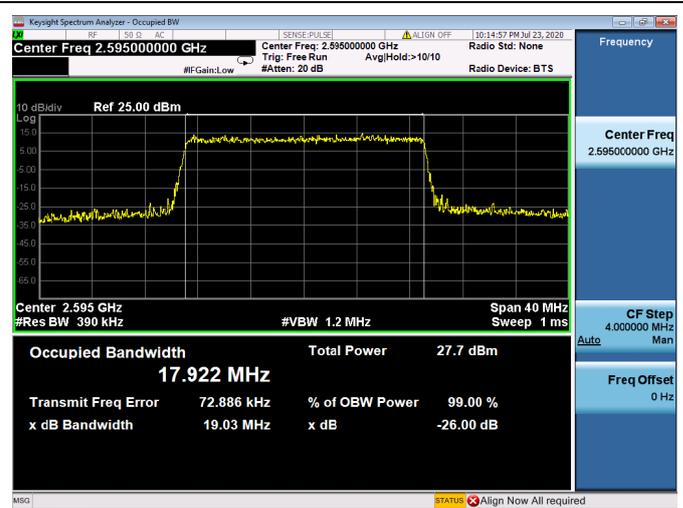
20MHz/QPSK / MCH

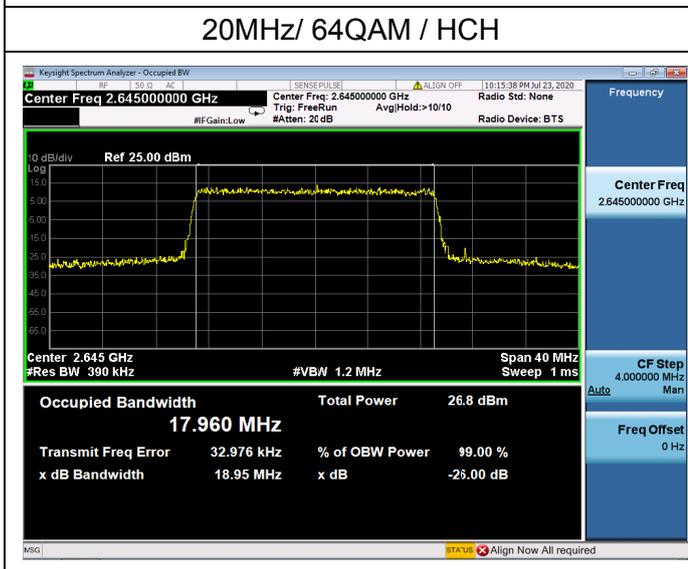
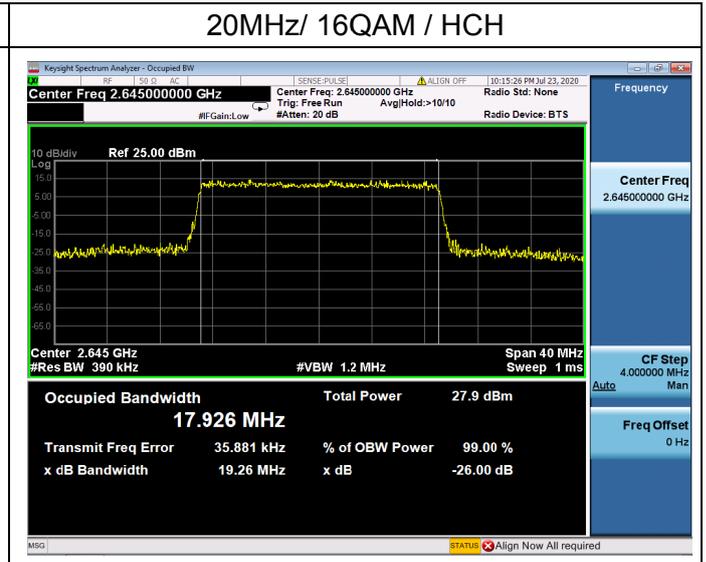
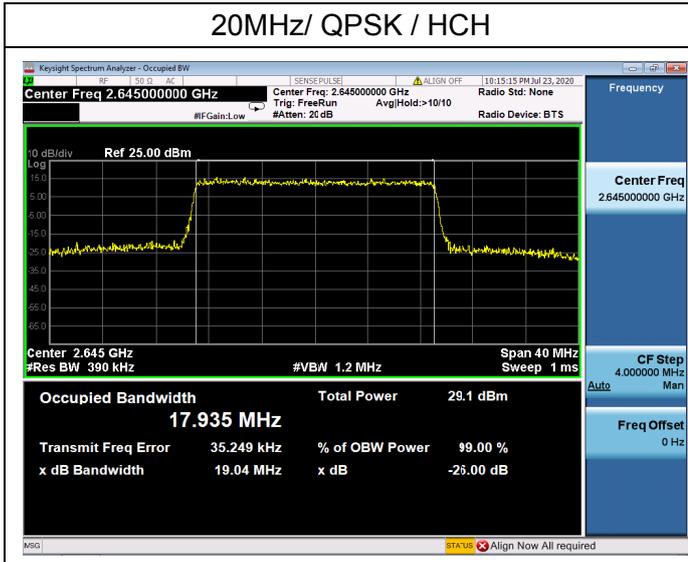


20MHz/ 16QAM / MCH



20MHz/ 64QAM / MCH





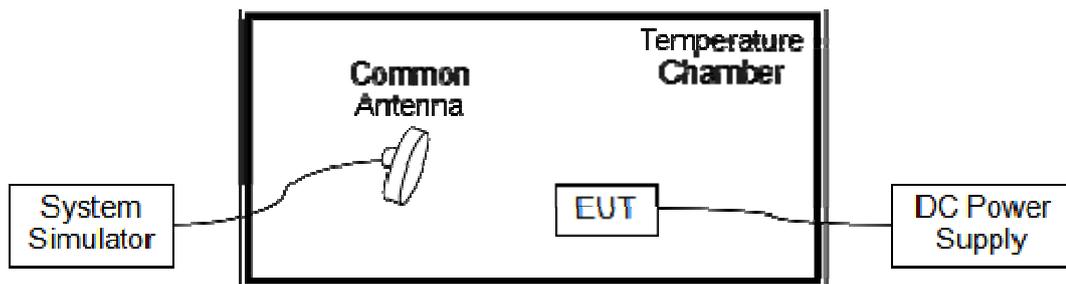
2.3. Frequency Stability

2.3.1. Requirement

According to FCC section 2.1055 & 27.54, the frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block. According to FCC section 2.1055, the test conditions are:

- (a) The temperature is varied from -10°C to $+45^{\circ}\text{C}$ at intervals of not more than 10°C .
- (b) For hand carried battery powered equipment, the primary supply voltage is reduced to the battery operating end point which shall be specified by the manufacture. The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

2.3.2. Test Description



The EUT which is powered by the DC Power Supply directly, is located in the Temperature Chamber. The EUT is commanded by the System Simulator (SS) to operate at the maximum output power. A call is established between the EUT and the SS via a Common Antenna.

2.3.3. Test procedure

KDB 971168 D01v03 Section 9.0 and ANSI/TIA-603-E-2016.

2.3.4. Test Result

The nominal, highest and lowest extreme voltages are separately 3.85VDC, 4.40VDC and 3.00VDC, which are specified by the applicant; the normal temperature here used is 20°C .



LTE Band 5, QPSK, Channel 20525, Frequency 836.5MHz					
Limit=±2.5ppm					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
100	3.85	+20(Ref)	35	0.042	PASS
100		-10	37	0.049	
100		0	-31	-0.038	
100		+10	-53	-0.064	
100		+20	-42	-0.050	
100		+30	-37	-0.044	
100		+40	-52	-0.062	
100		+45	84	0.100	
115	4.40	+20	44	0.052	
85	3.00	+20	79	0.094	

LTE Band 38, QPSK, Channel 38000, Frequency 2595MHz					
Limit=±1ppm					
Voltage (%)	Power (VDC)	Temp (°C)	Fre. Dev. (Hz)	Deviation (ppm)	Result
100	3.85	+20(Ref)	-45	-0.054	PASS
100		-10	39	0.050	
100		0	16	0.019	
100		+10	35	0.042	
100		+20	-32	-0.038	
100		+30	-53	-0.064	
100		+40	-42	-0.050	
100		+45	-37	-0.044	
115	4.40	+20	-52	-0.062	
85	3.00	+20	84	0.100	



LTE Band 40, QPSK, Channel 38750, Frequency 2310MHz					
Limit ± 1 ppm					
Voltage(%)	Power (VDC)	Temp($^{\circ}$ C)	Fre. Dev.(Hz)	Deviation (ppm)	Result
100	3.85	+20(Ref)	35	0.016	PASS
100		-10	39	0.050	
100		0	63	0.028	
100		+10	52	0.023	
100		+20	-54	-0.023	
100		+30	-63	-0.027	
100		+40	-44	-0.018	
100		+45	38	0.017	
115	4.40	+20	83	0.036	
85	3.00	+20	52	0.023	

LTE Band 41, QPSK, Channel 40640, Frequency 2595MHz					
Limit ± 1 ppm					
Voltage(%)	Power (VDC)	Temp($^{\circ}$ C)	Fre. Dev.(Hz)	Deviation (ppm)	Result
100	3.85	+20(Ref)	26	0.012	PASS
100		-10	39	0.050	
100		0	37	0.016	
100		+10	48	0.021	
100		+20	-61	-0.026	
100		+30	-71	-0.030	
100		+40	-52	-0.022	
100		+45	49	0.023	
115	4.40	+20	67	0.034	
85	3.00	+20	37	0.016	

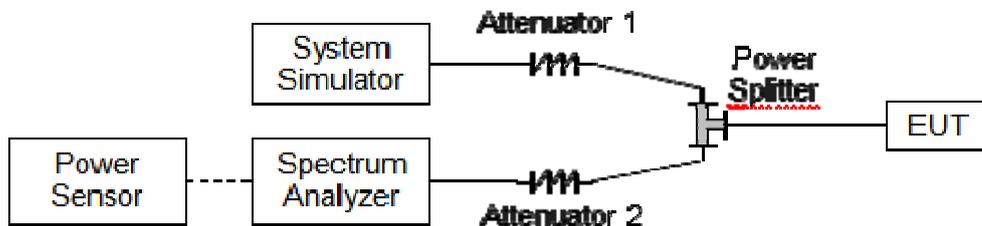
2.4. Peak to Average Ratio

2.4.1. Requirement

According to FCC section 24.232(d), the peak to average ratio (PAR) of the transmission may not exceed 13dB.

2.4.2. Test Description

A. Test Set:



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50 Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS.

2.4.3. Test procedure

KDB 971168 D01v03 Section 5.7 and ANSI/TIA-603-E-2016.

2.4.4. Test Result

Record the maximum PAPR level associated with a probability of 0.1%.



LTE Band 40(2305MHz-2315MHz)					
BW(MHz)	Channel Level	Modulation	PAR(dB)	Limit(dB)	Verdict
5	Low	QPSK	8.27	<=13	PASS
5	Low	16QAM	8.77	<=13	PASS
5	Low	64QAM	7.40	<=13	PASS
5	Mid	QPSK	9.29	<=13	PASS
5	Mid	16QAM	9.00	<=13	PASS
5	Mid	64QAM	9.15	<=13	PASS
5	High	QPSK	8.87	<=13	PASS
5	High	16QAM	8.88	<=13	PASS
5	High	64QAM	9.01	<=13	PASS
10	Mid	QPSK	8.37	<=13	PASS
10	Mid	16QAM	8.43	<=13	PASS
10	Mid	64QAM	8.38	<=13	PASS

LTE Band 40(2350Hz-2360MHz)					
BW(MHz)	Channel Level	Modulation	PAR(dB)	Limit(dB)	Verdict
5	Low	QPSK	9.02	<=13	PASS
5	Low	16QAM	9.01	<=13	PASS
5	Low	64QAM	8.85	<=13	PASS
5	Mid	QPSK	8.87	<=13	PASS
5	Mid	16QAM	9.65	<=13	PASS
5	Mid	64QAM	8.95	<=13	PASS
5	High	QPSK	9.06	<=13	PASS
5	High	16QAM	9.22	<=13	PASS
5	High	64QAM	9.31	<=13	PASS
10	Mid	QPSK	8.13	<=13	PASS
10	Mid	16QAM	8.39	<=13	PASS
10	Mid	64QAM	8.68	<=13	PASS



LTE Band 40 (2305 — 2315MHz)

5MHz/QPSK / LCH



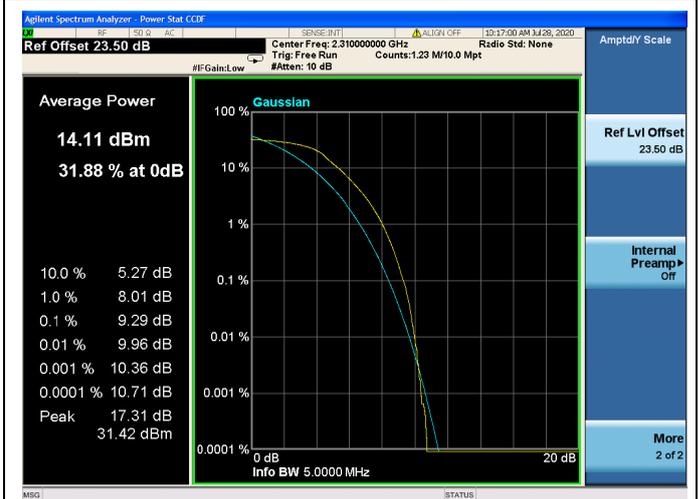
5MHz/16QAM / LCH



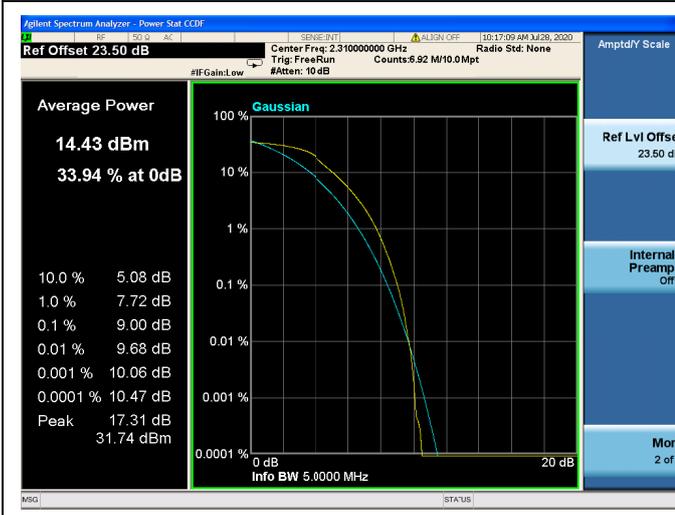
5MHz/ 64QAM / LCH



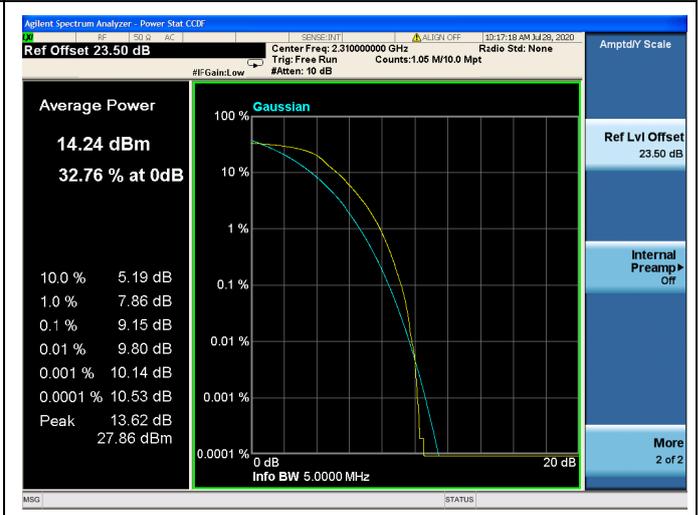
5MHz/QPSK / MCH



5MHz/ 16QAM / MCH



5MHz/ 64QAM / MCH





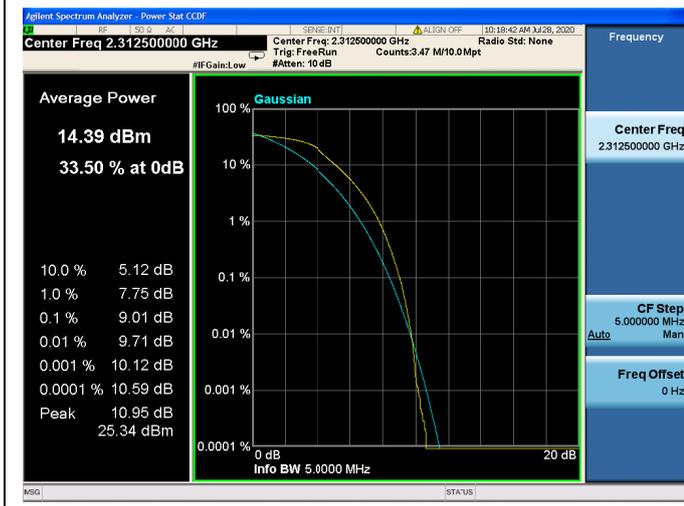
5MHz/ QPSK / HCH



5MHz/ 16QAM / HCH

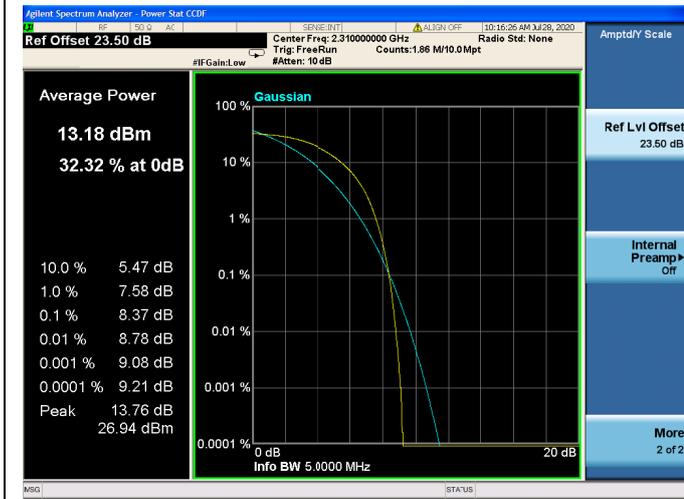


5MHz/ 64QAM / HCH

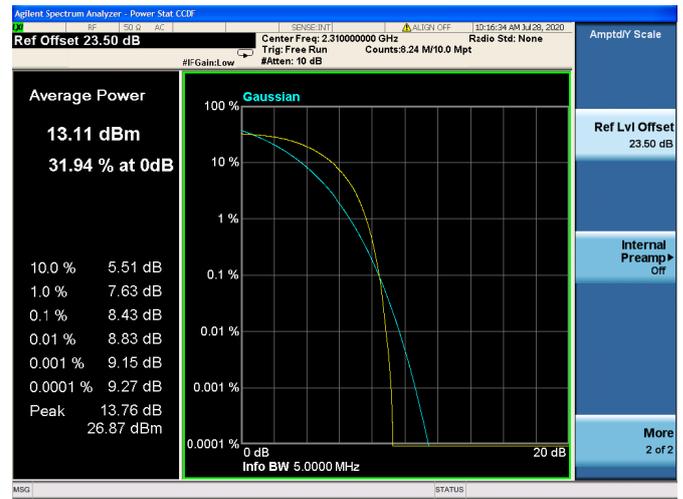




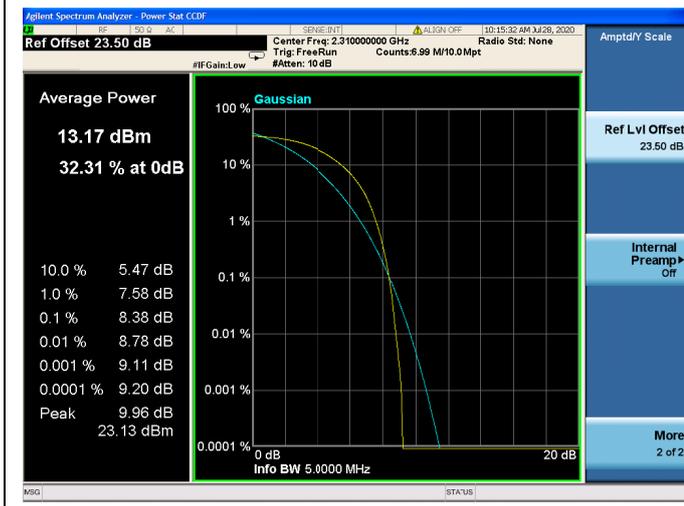
10MHz/QPSK / MCH



10MHz/ 16QAM / MCH



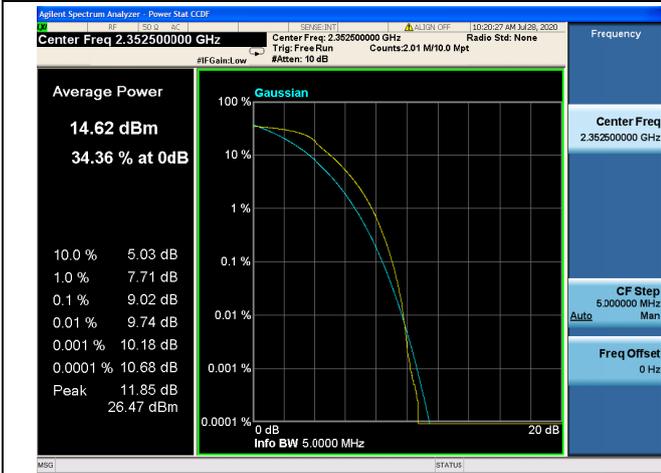
10MHz/ 64QAM / MCH



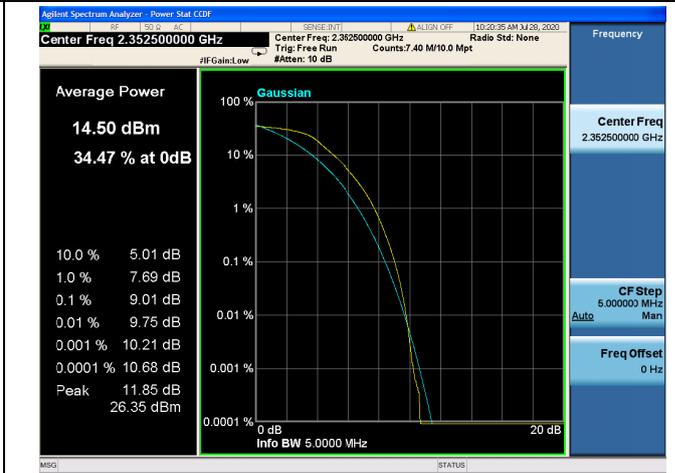


LTE Band 40 (2350 — 2360MHz)

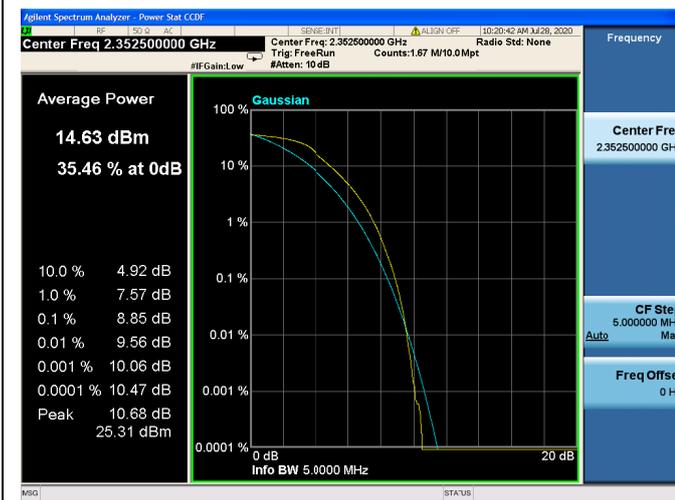
5MHz/QPSK / LCH



5MHz/16QAM / LCH



5MHz/ 64QAM / LCH



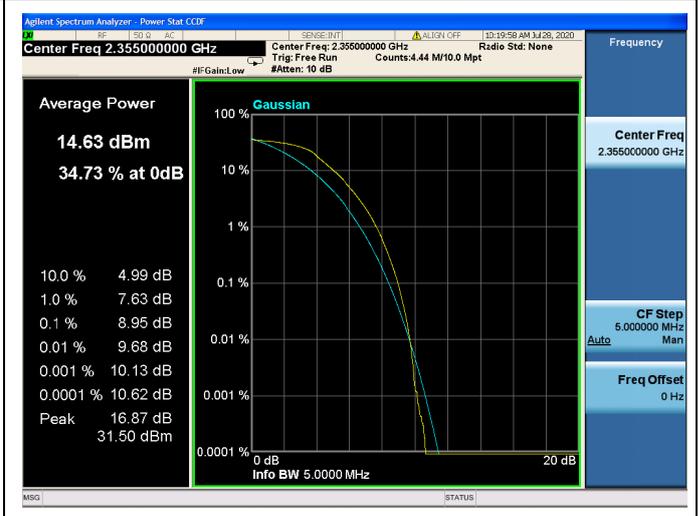
5MHz/QPSK / MCH



5MHz/ 16QAM / MCH



5MHz/ 64QAM / MCH

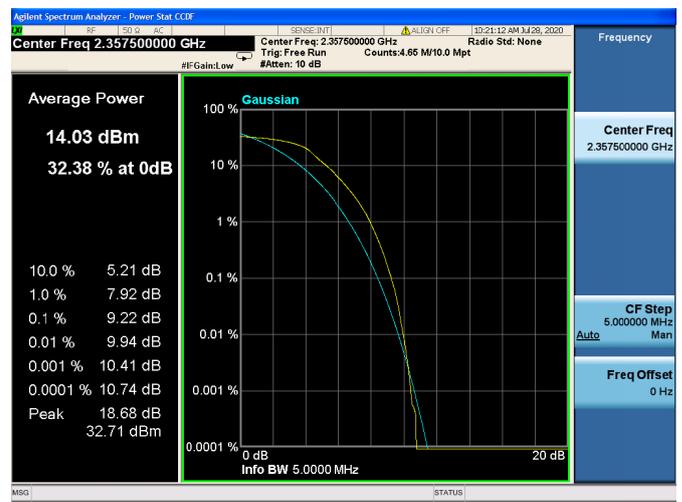




5MHz/ QPSK / HCH



5MHz/ 16QAM / HCH

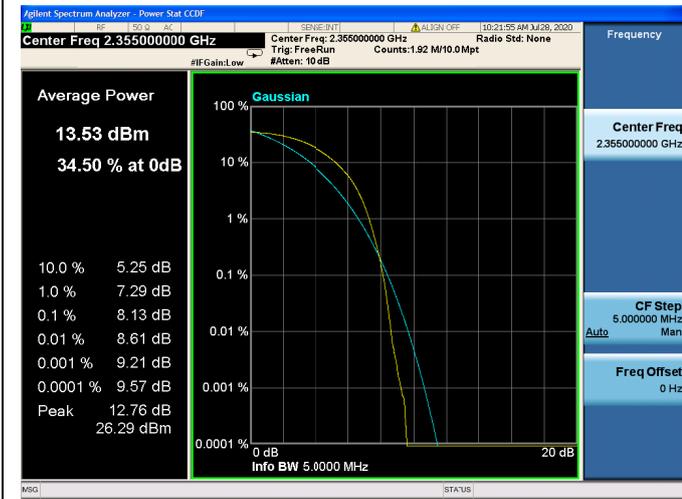


5MHz/ 64QAM / HCH

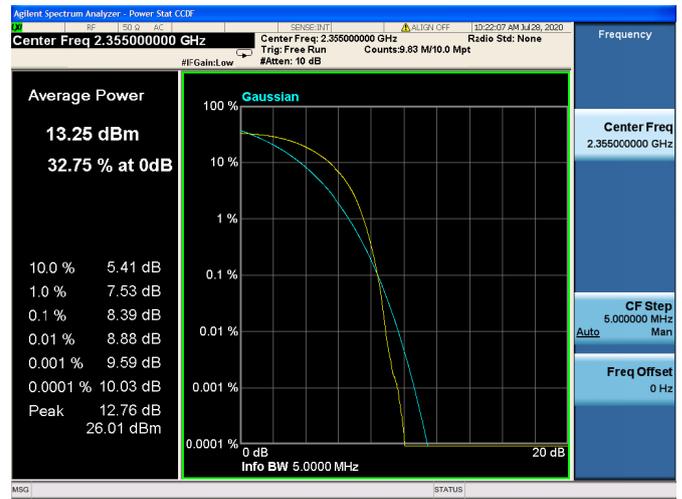




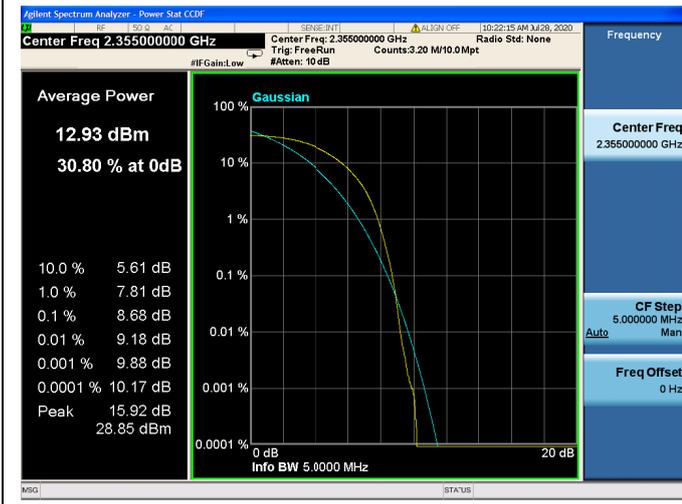
10MHz/QPSK / MCH



10MHz/ 16QAM / MCH



10MHz/ 64QAM / MCH



2.5. Conducted Spurious Emissions

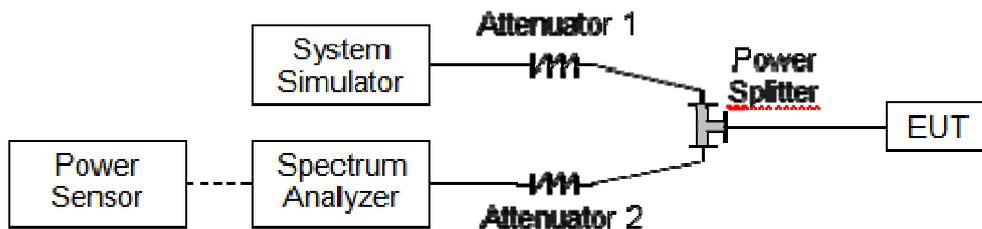
2.5.1. Requirement

According to FCC section 2.1051, the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43+10*\log(P)$ dB. This calculated to be -13dBm.

Additional requirement for LTE Band 41:

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $55 + 10 \log(P)$ dB. This calculated to be -25dBm.

2.5.2. Test Description



The EUT is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with Attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. The EUT is commanded by the SS to operate at the maximum output power. A call is established between the EUT and the SS.

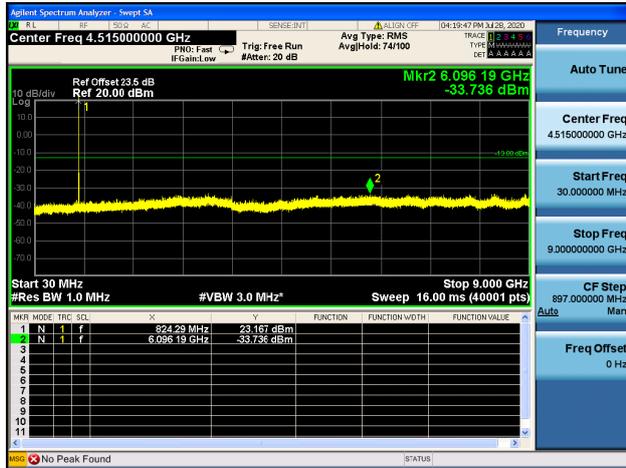
2.5.3. Test procedure

KDB 971168 D01v03 Section 6.0 and ANSI/TIA-603-E-2016.

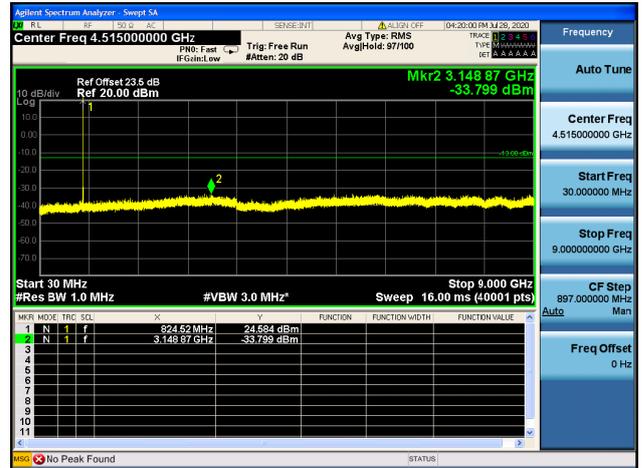
2.5.4. Test Result



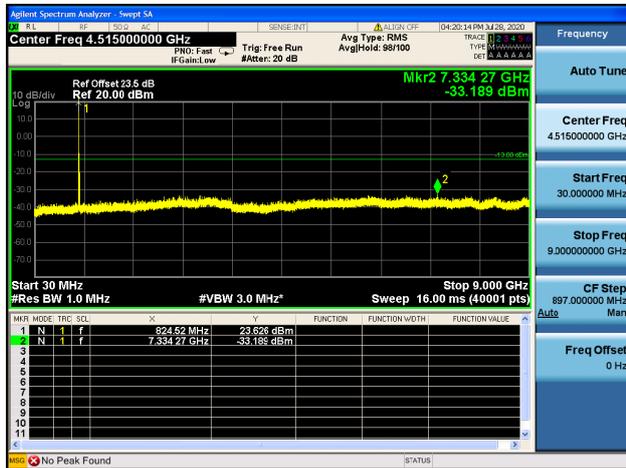
Band5 / 1.4MHz / Low CH / QPSK



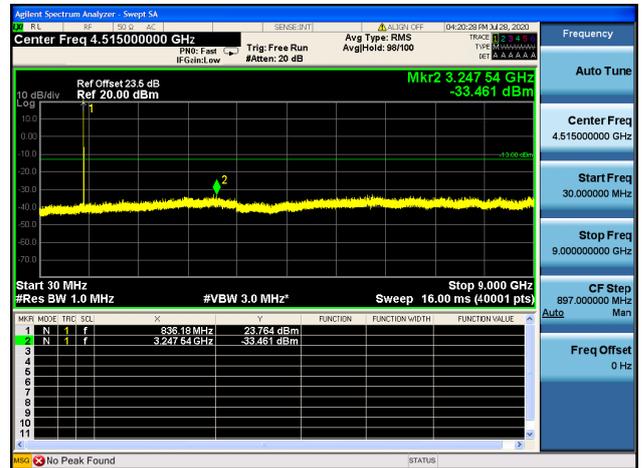
Band5 / 1.4MHz / Low CH / 16QAM



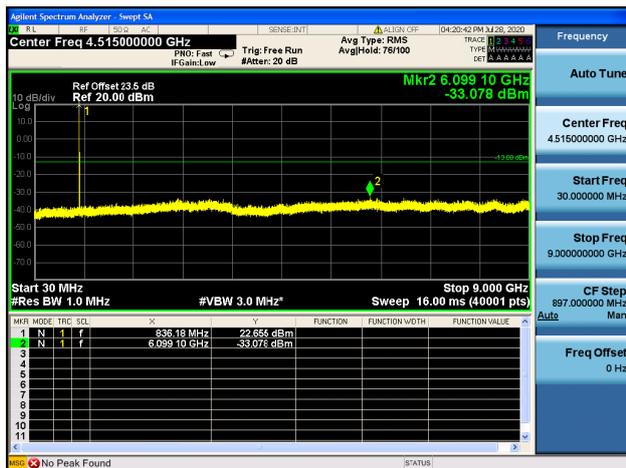
Band5 / 1.4MHz / Low CH / 64QAM



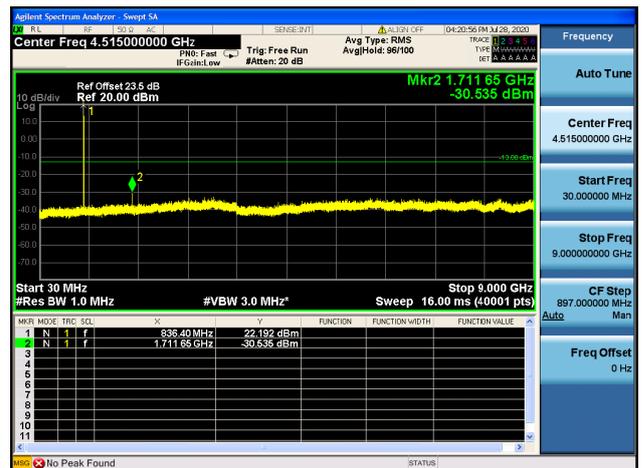
Band5 / 1.4MHz / Mid CH / QPSK



Band5 / 1.4MHz / Mid CH / 16QAM

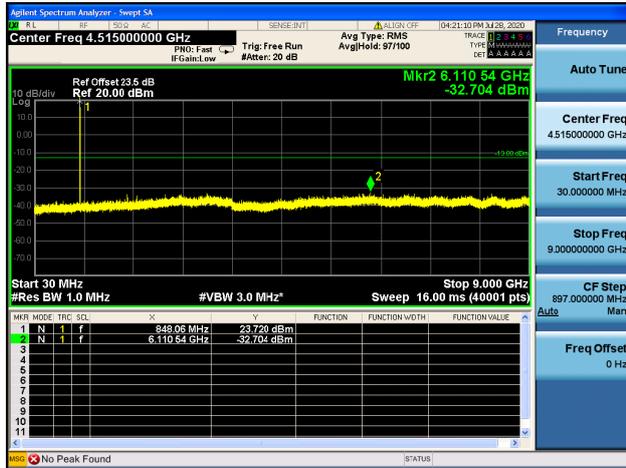


Band5 / 1.4MHz / Mid CH / 64QAM

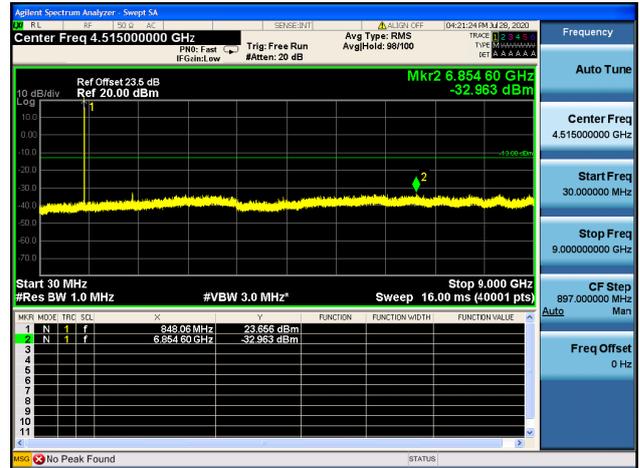




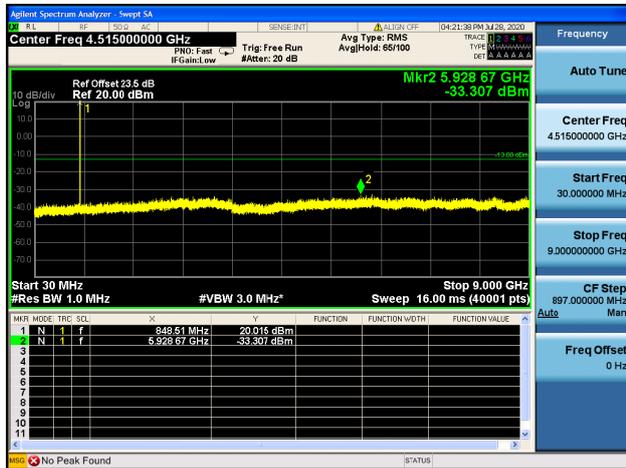
Band5 / 1.4MHz / High CH / QPSK



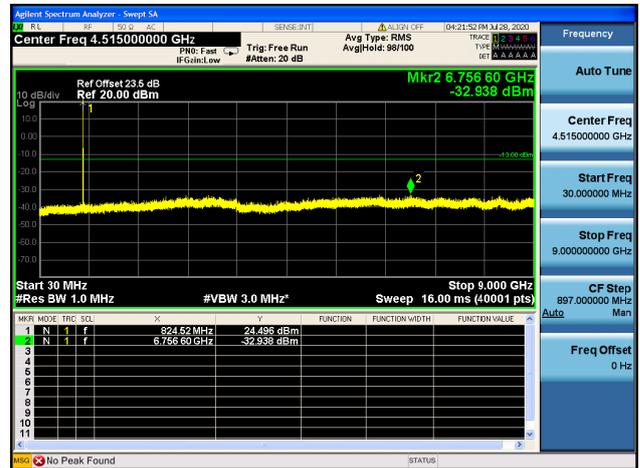
Band5 / 1.4MHz / High CH / 16QAM



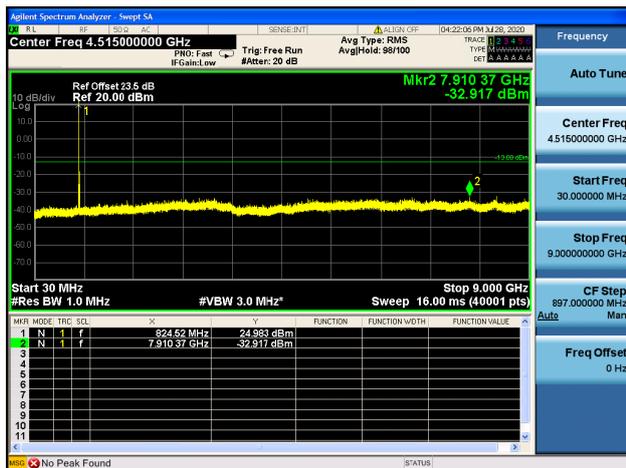
Band5 / 1.4MHz / High CH / 64QAM



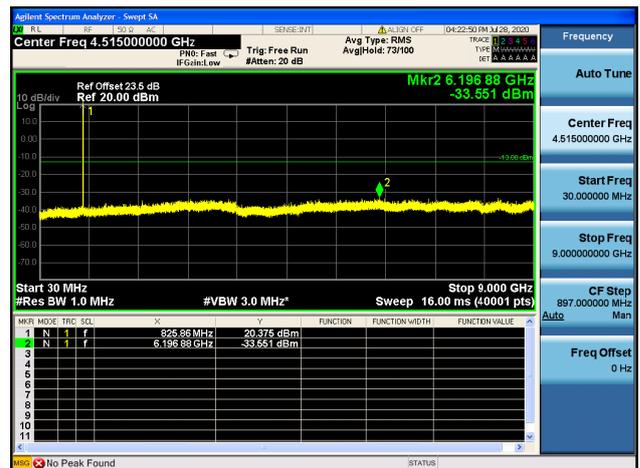
Band5 / 3MHz / Low CH / QPSK



Band5 / 3MHz / Low CH / 16QAM

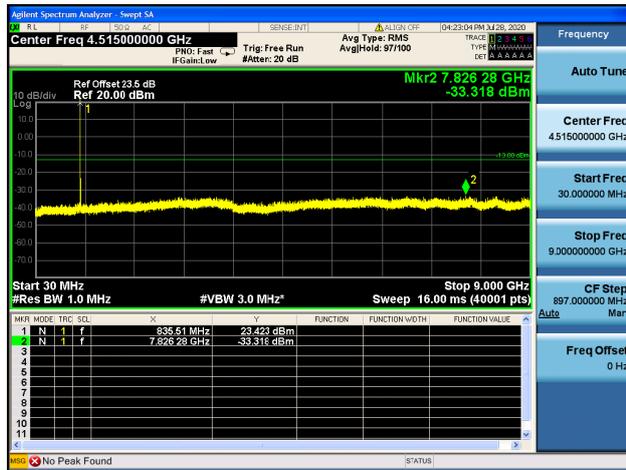


Band5 / 3MHz / Low CH / 64QAM

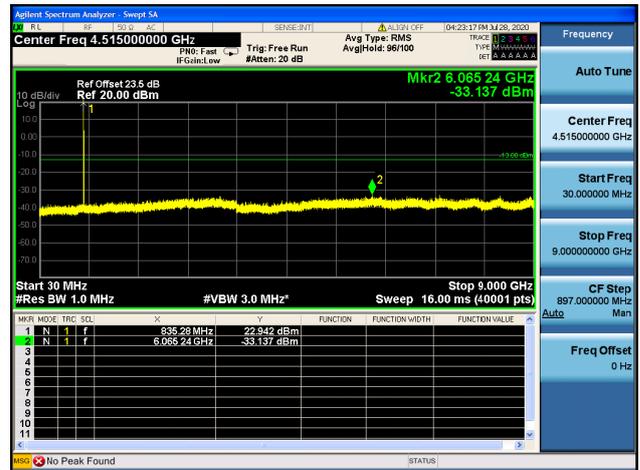




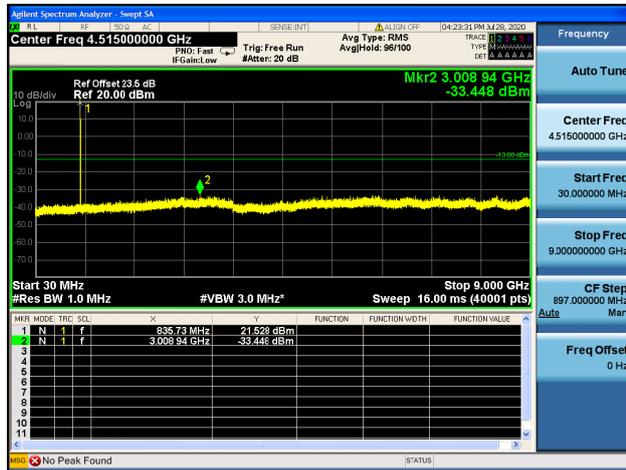
Band5 / 3MHz / Mid CH / QPSK



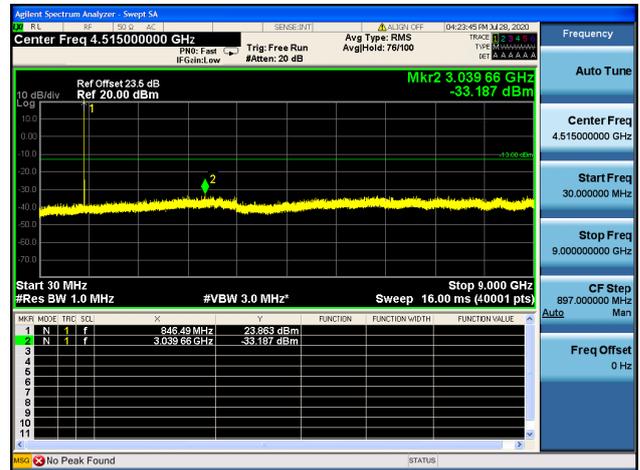
Band5 / 3MHz / Mid CH / 16QAM



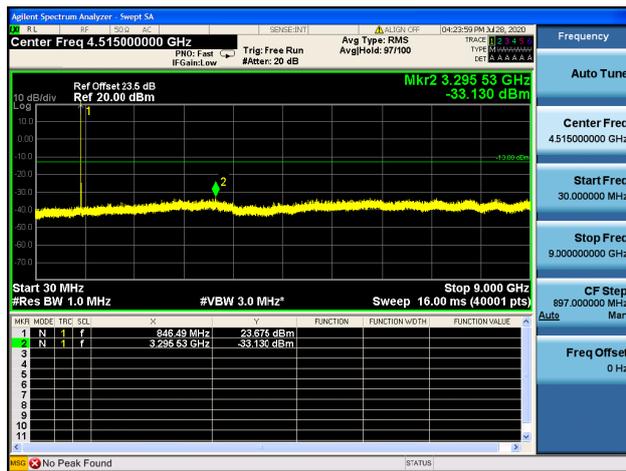
Band5 / 3MHz / Mid CH / 64QAM



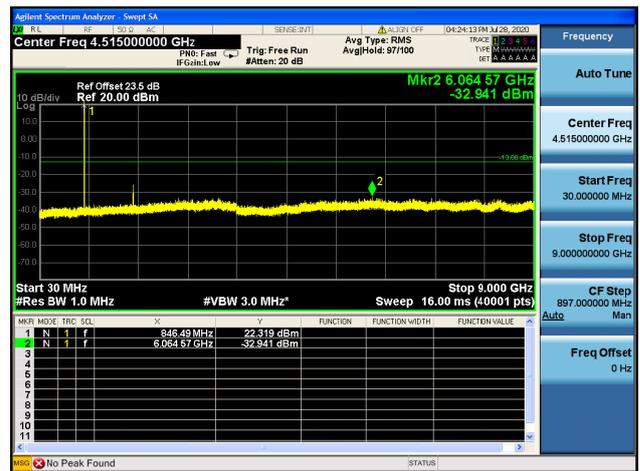
Band5 / 3MHz / High CH / QPSK



Band5 / 3MHz / High CH / 16QAM

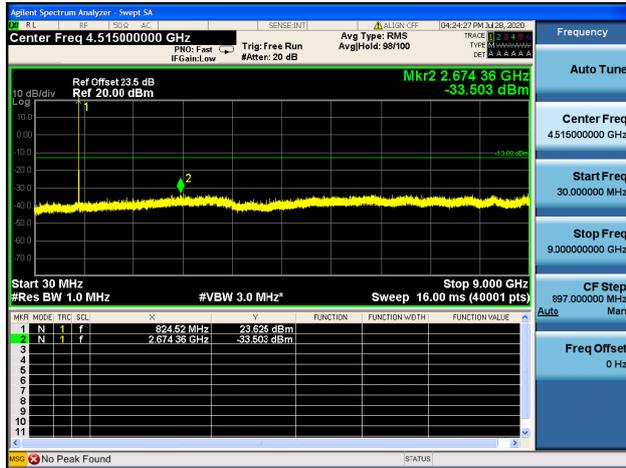


Band5 / 3MHz / High CH / 64QAM

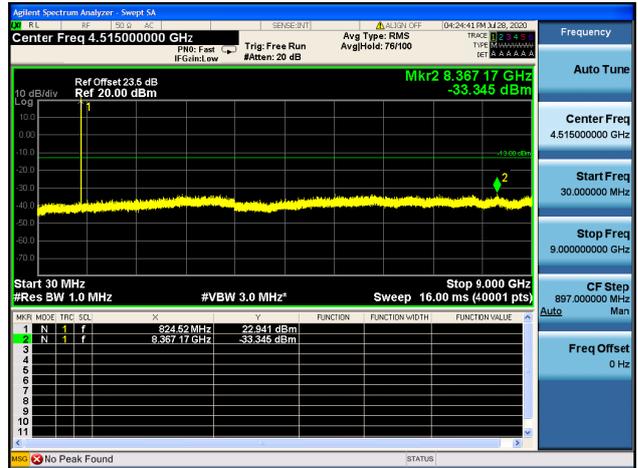




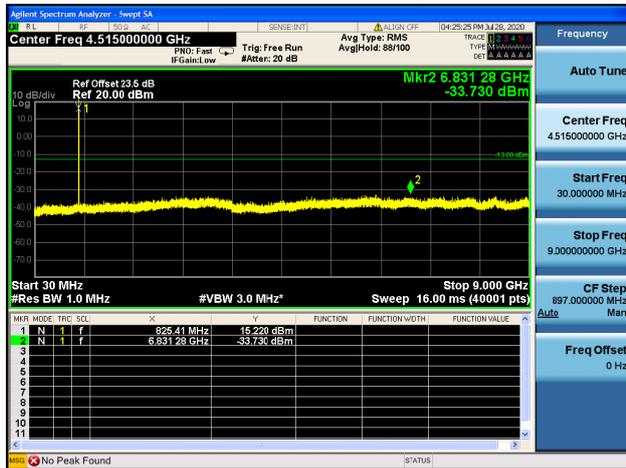
Band5 / 5MHz / Low CH / QPSK



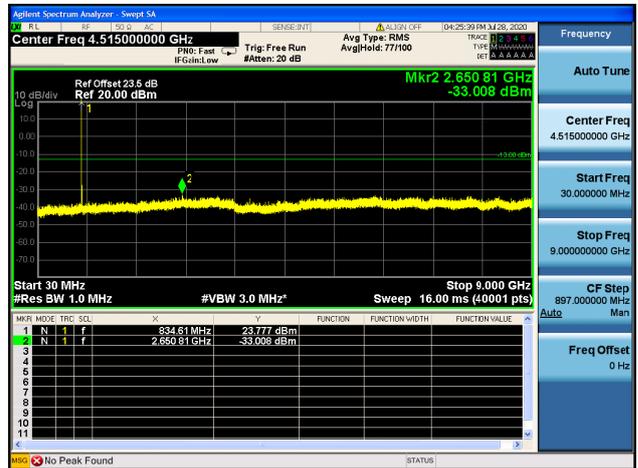
Band5 / 5MHz / Low CH / 16QAM



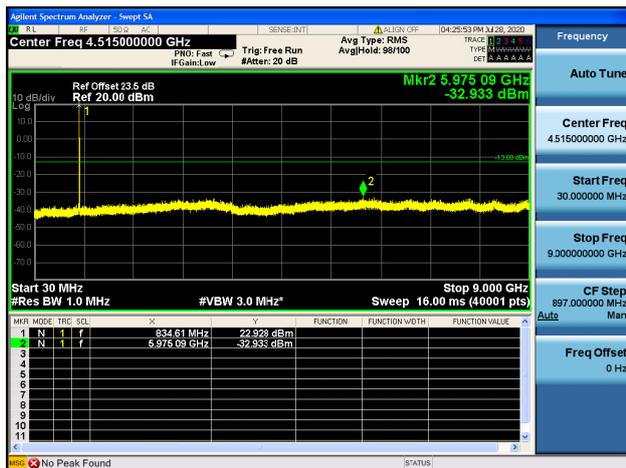
Band5 / 5MHz / Low CH / 64QAM



Band5 / 5MHz / Mid CH / QPSK



Band5 / 5MHz / Mid CH / 16QAM

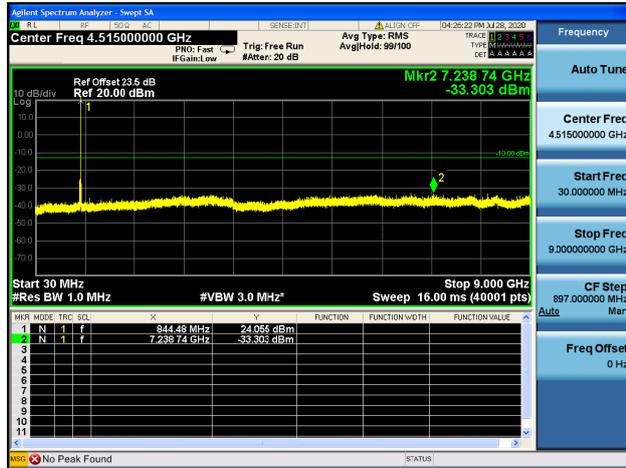


Band5 / 5MHz / Mid CH / 64QAM

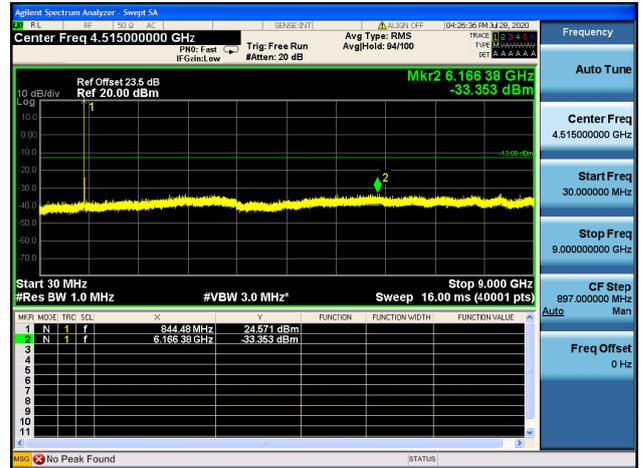




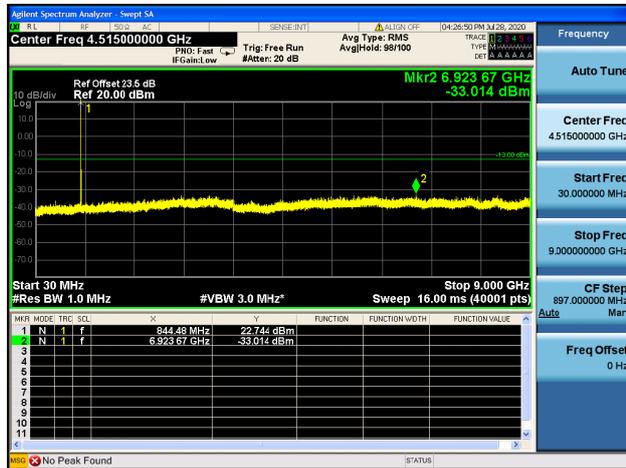
Band5 / 5MHz / High CH / QPSK



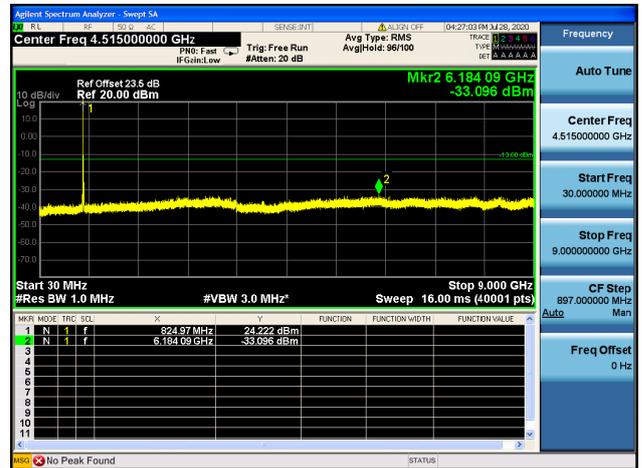
Band5 / 5MHz / High CH / 16QAM



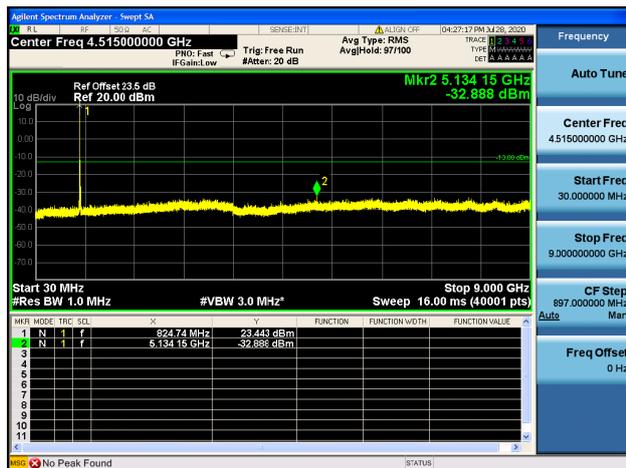
Band5 / 5MHz / High CH / 64QAM



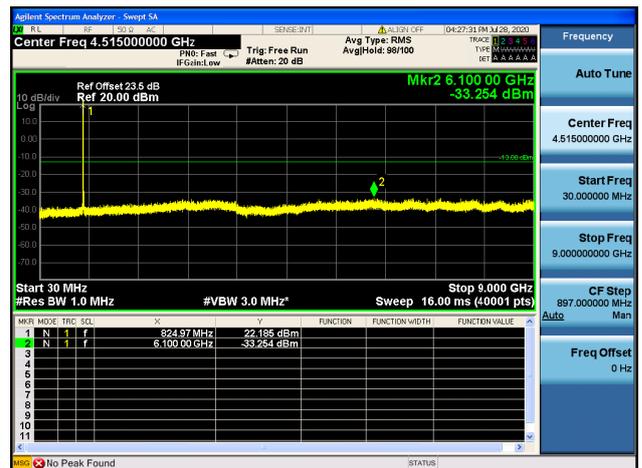
Band5 / 10MHz / Low CH / QPSK



Band5 / 10MHz / Low CH / 16QAM

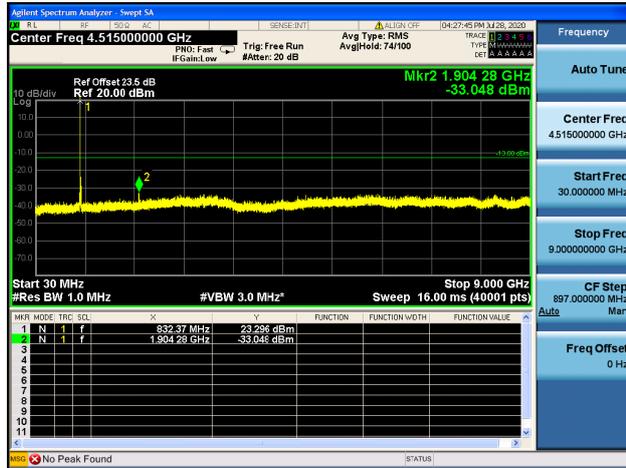


Band5 / 10MHz / Low CH / 64QAM

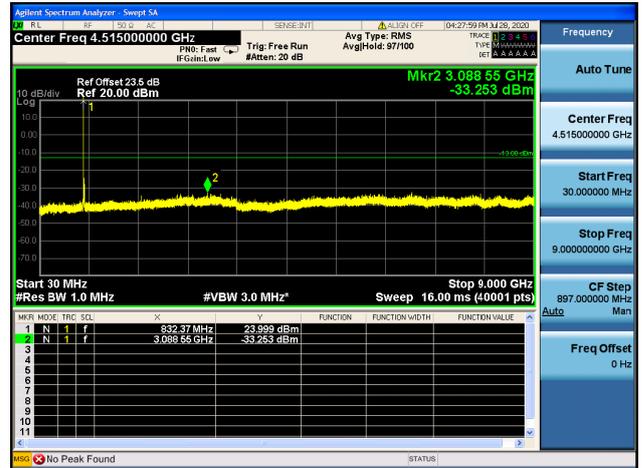




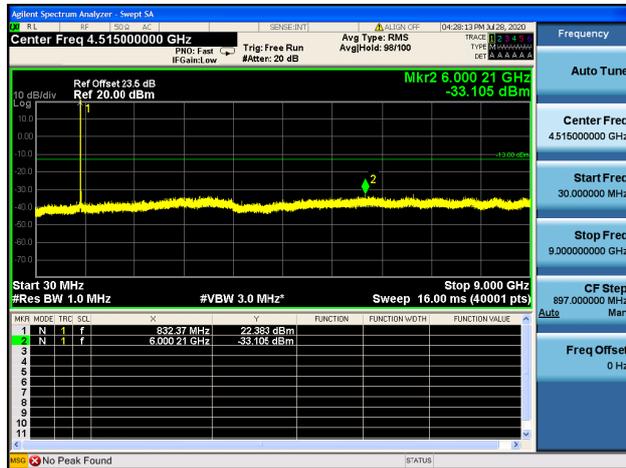
Band5 / 10MHz / Mid CH / QPSK



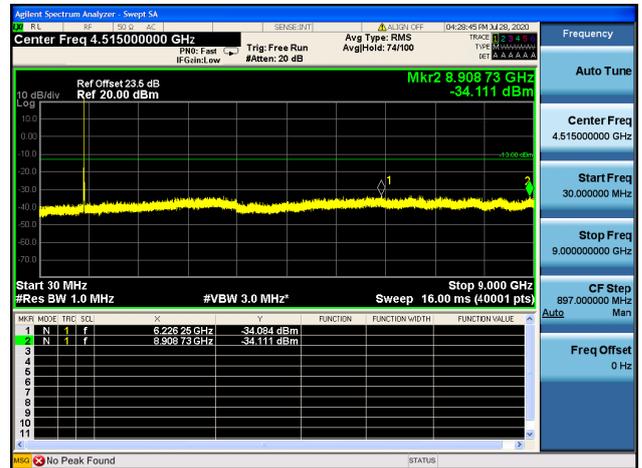
Band5 / 10MHz / Mid CH / 16QAM



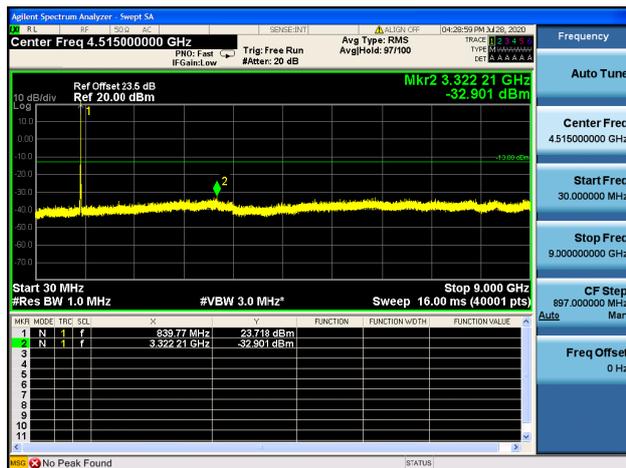
Band5 / 10MHz / Mid CH / 64QAM



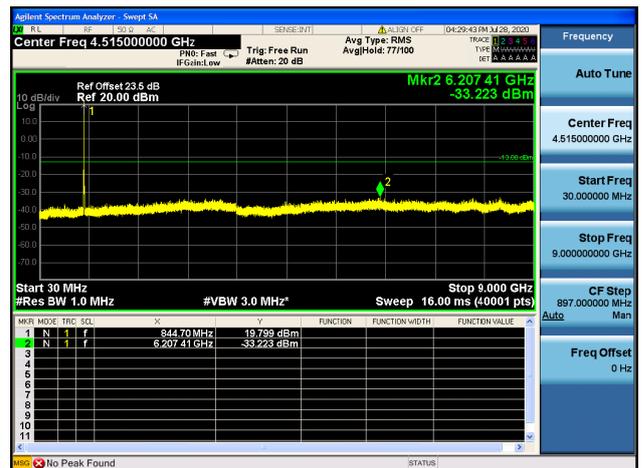
Band5 / 10MHz / High CH / QPSK



Band5 / 10MHz / High CH / 16QAM



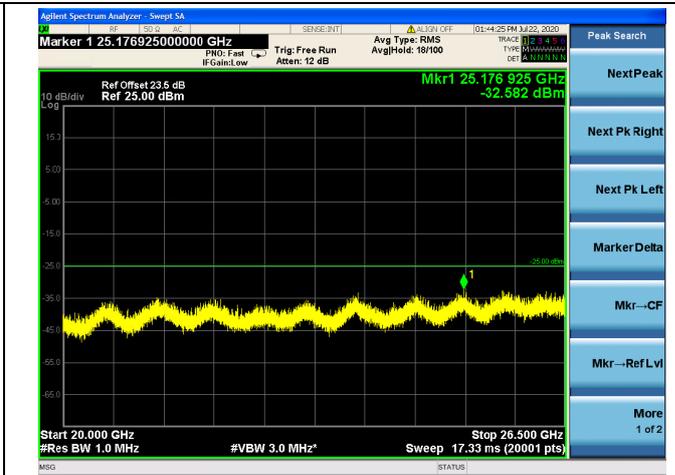
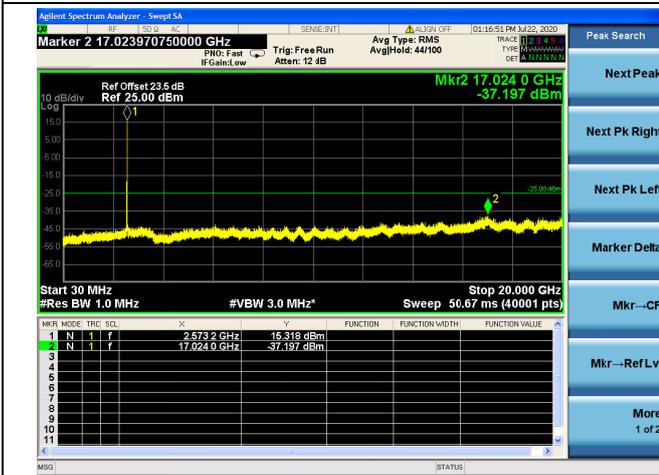
Band5 / 10MHz / High CH / 64QAM



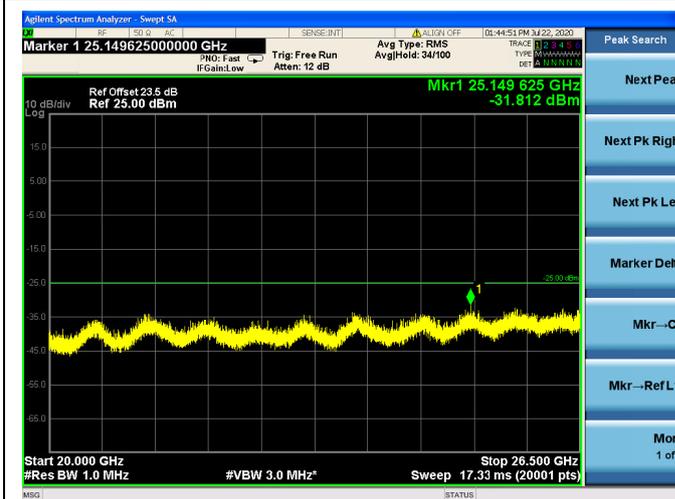
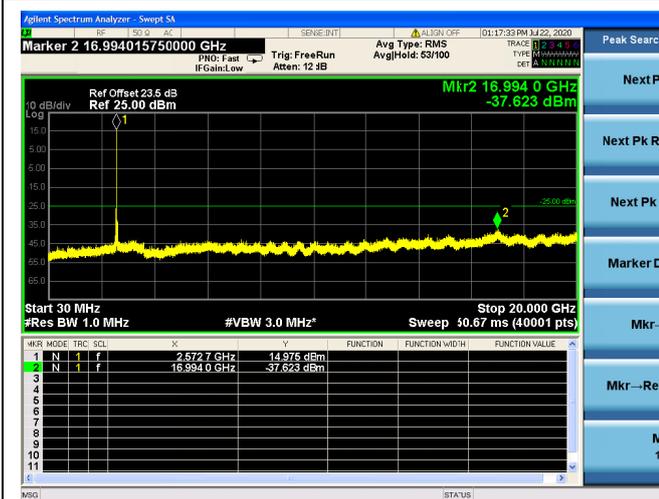


LTE Band 38 CSE

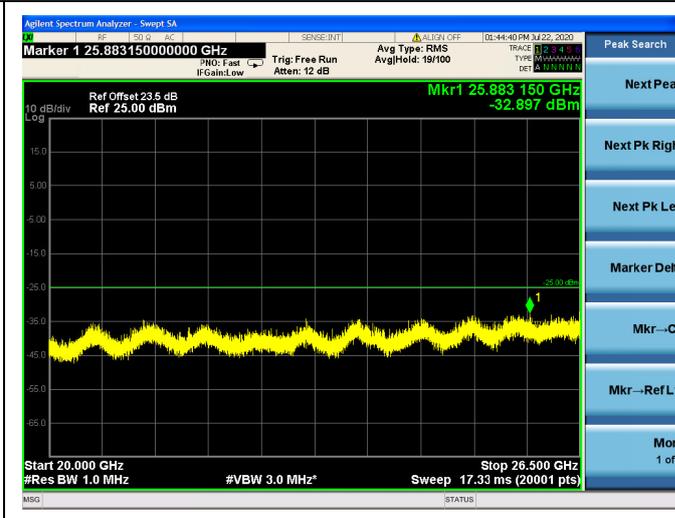
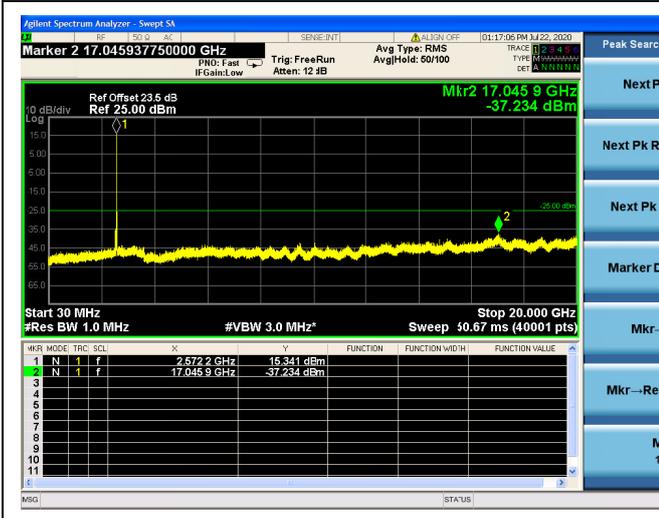
5MHz/QPSK/Low CH



5MHz/16QAM/Low CH

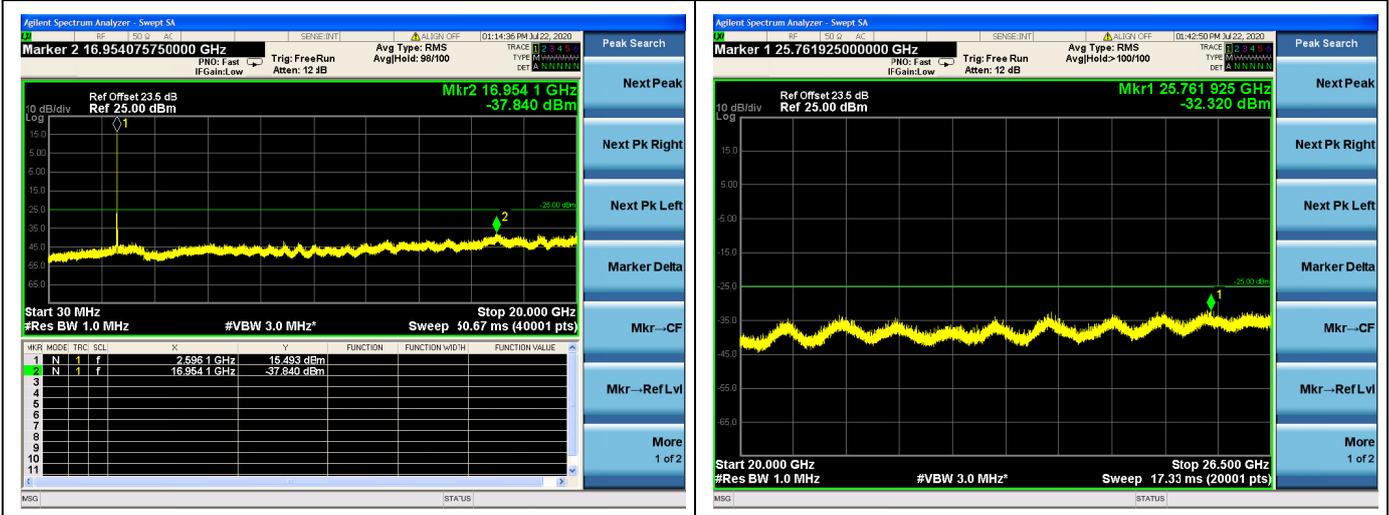


5MHz/64QAM/Low CH

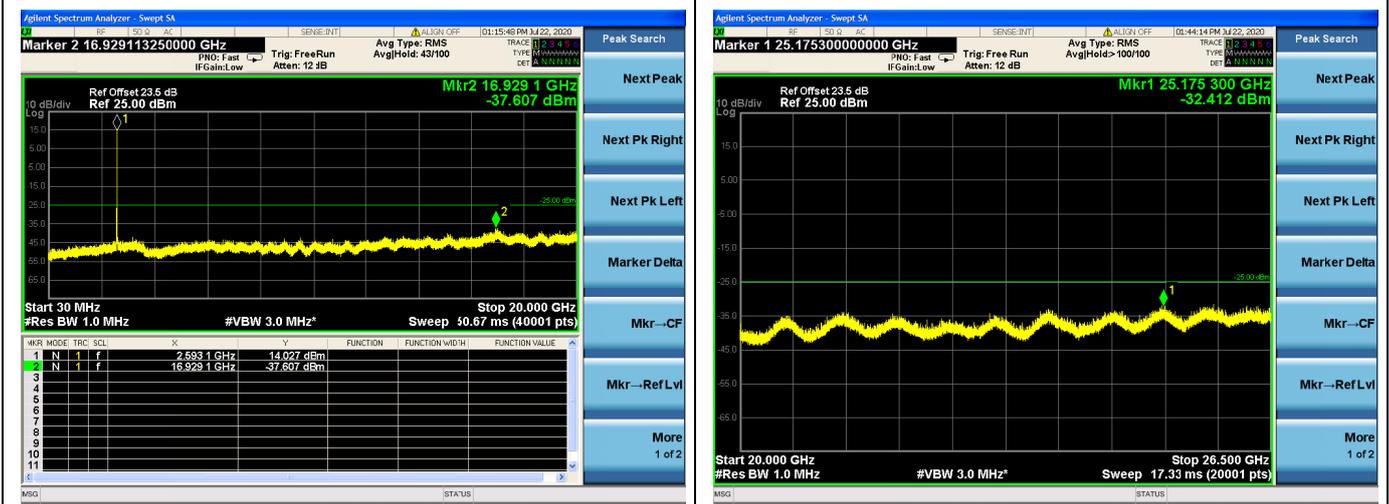




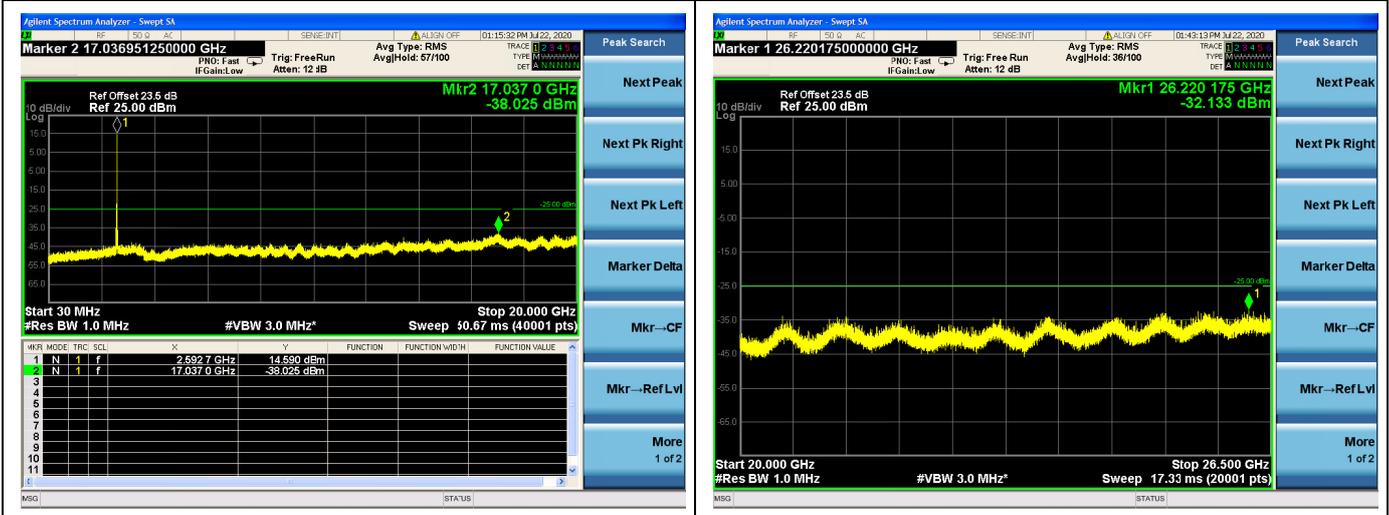
5MHz/QPSK/Mid CH



5MHz/16QAM/Mid CH

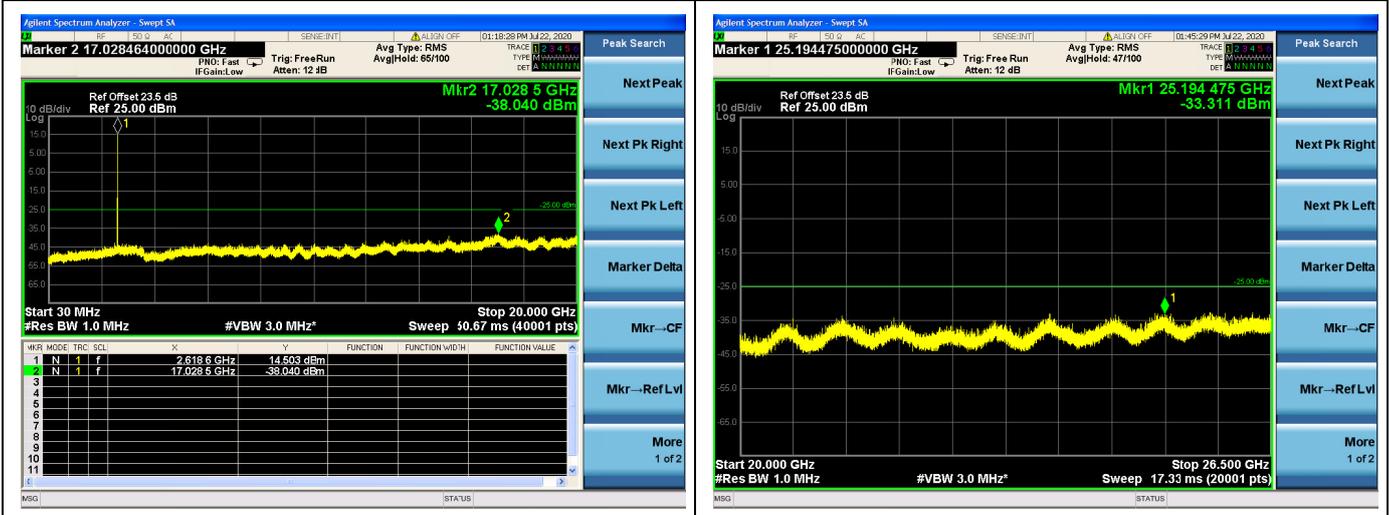


5MHz/64QAM/Mid CH

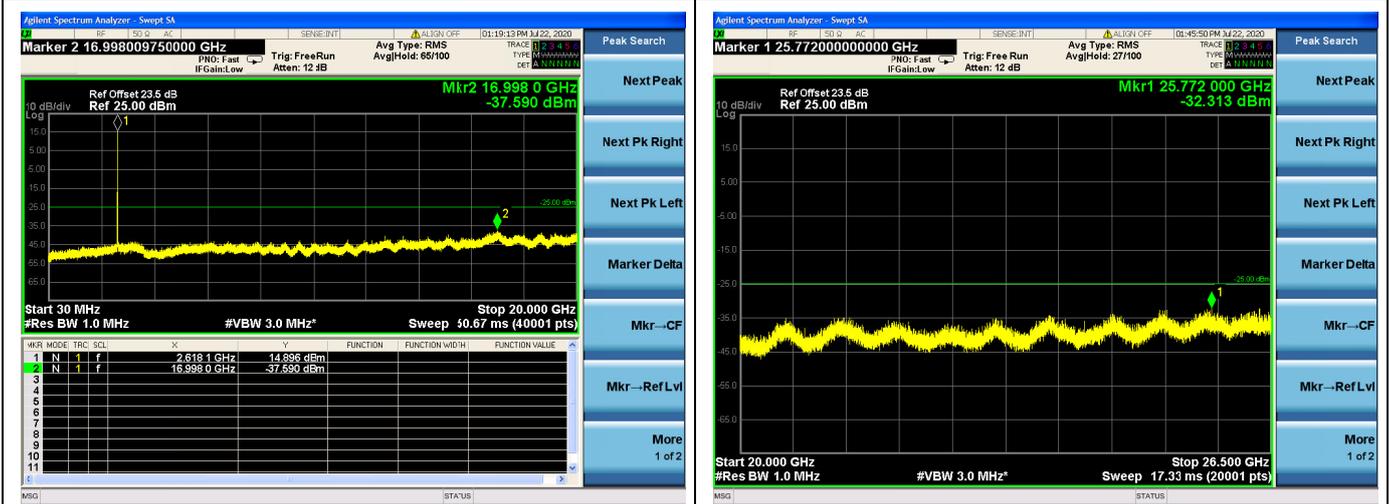




5MHz/QPSK/High CH



5MHz/16QAM/High CH

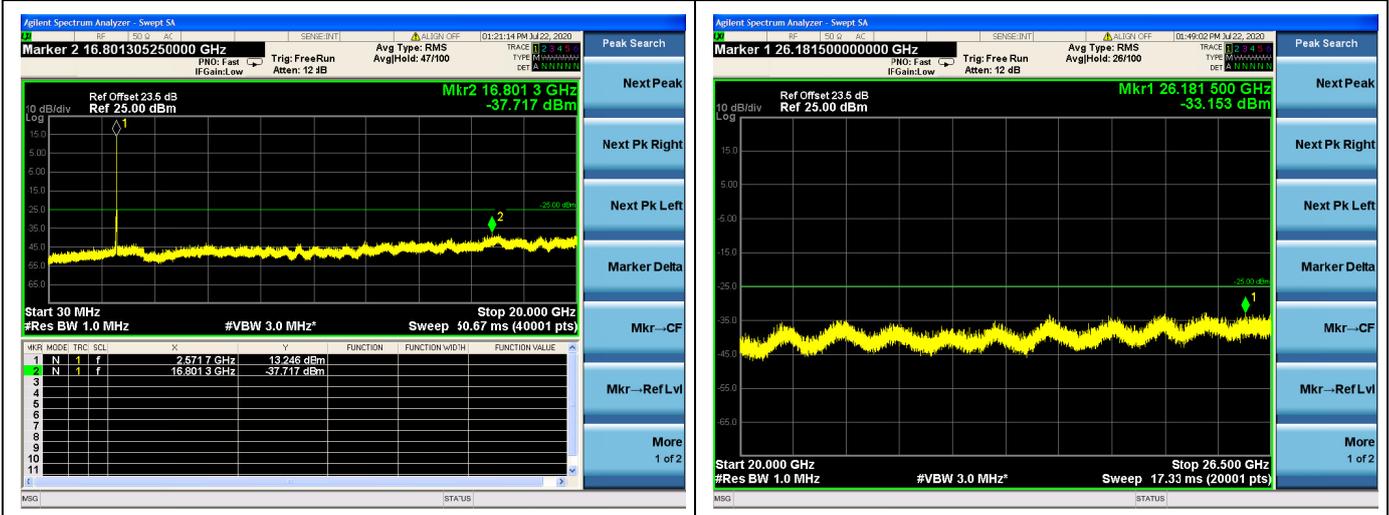


5MHz/64QAM/High CH

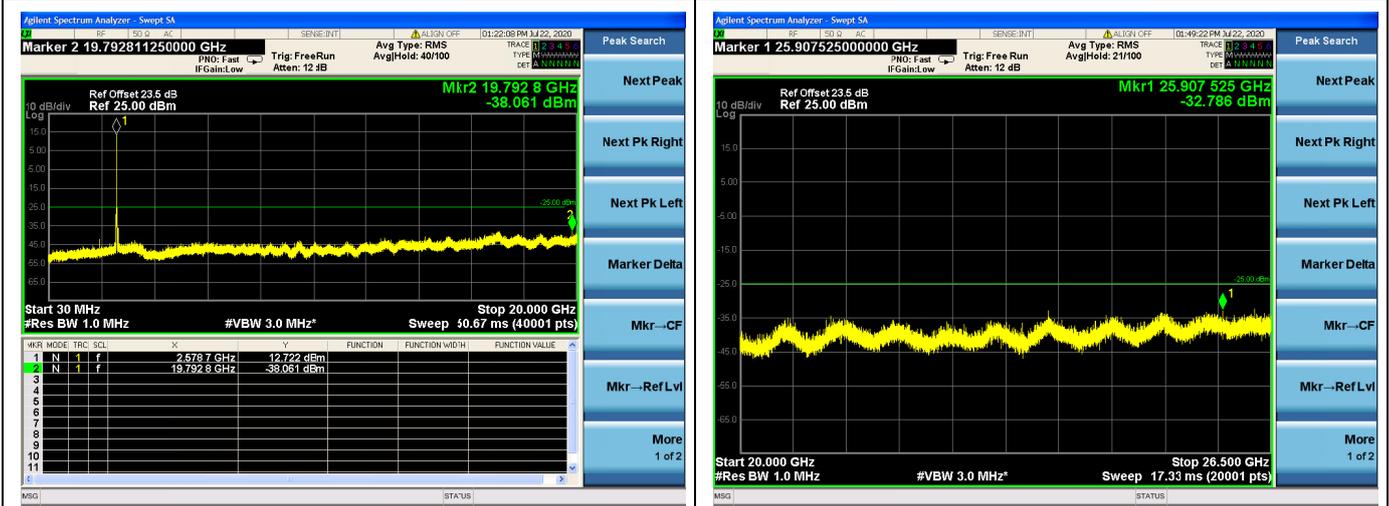




10MHz/QPSK/Low CH



10MHz/16QAM/Low CH



10MHz/64QAM/Low CH

